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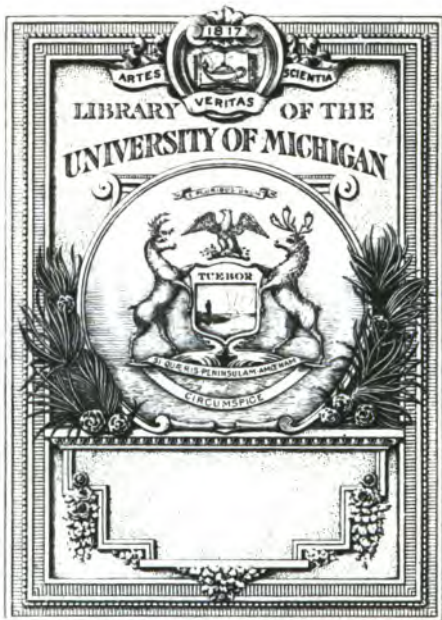
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Grand father of
Jane Van der Meer

Mary Jackson's
ARITHMETICAL QUESTIONS,

ON A NEW PLAN:

**INTENDED TO ANSWER THE DOUBLE PURPOSE OF
ARITHMETICAL INSTRUCTION**

AND

MISCELLANEOUS INFORMATION.

TO WHICH ARE SUBJOINED,

**A COLLECTION OF ARITHMETICAL TABLES,
QUESTIONS FOR PRACTICAL EXAMINATION,**

AND A

COPIOUS INDEX

**OF PERSONS, PLACES, AND THINGS, OCCASIONALLY
TREATED OF, OR MENTIONED IN THE WORK.**

DESIGNED FOR THE USE OF YOUNG LADIES.

By WILLIAM BUTLER,

**TEACHER OF WRITING, ACCOUNTS, AND GEOGRAPHY,
IN LADIES' SCHOOLS.**

The knowledge of numbers is necessary for every one who is acquainted with
the first elements of learning. **QUINTILIAN.**

Arithmetic is of so general use, in all parts of life and business, that scarcely
any thing is to be done without it. **LOCKE.**

He that requires the attention and application of children, should endeavour to
make what he proposes as grateful and agreeable as possible. *Ibid.*

THE FIFTH EDITION, ENLARGED.

London:

PRINTED FOR THE AUTHOR AND PROPRIETORS

**BY S. COUCHMAN, THROGMORTON-STREET;
AND SOLD BY DARTON AND HARVEY, GRACECHURCH-
STREET; J. MAWMAN, IN THE POULTRY;
AND J. HARRIS, THE CORNER OF
ST. PAUL'S CHURCH-YARD.**

1811.



Hist. of Science
Loudonville
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P R E F A C E.

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IT has been well remarked, that "it is every man's duty who comes into the world, to use his best endeavours, however insignificant, to leave it as much wiser and as much better as he can." If this observation inculcates a general duty, it applies with peculiar force to persons engaged in instruction by their profession. Viewing the admonition in this obligatory light, I constantly endeavour to render the several parts of my professional occupation as subservient to the great end that it aims to promote, as their nature will admit. Upon this plan most of the following questions have been composed, which, with several others of a similar kind, but on a more confined scale, have been long distributed among my own scholars; and I have often had the satisfaction of finding them signally instrumental in inspiring a desire of more extensive and circumstantial information. A hope of rendering the questions more generally useful, and a desire of removing the toil of frequent transcription, are my motives for the publication of them. I am nevertheless aware, that the accomplishment of the former far more important view must depend greatly upon the exertions of the teacher. Should he, inheriting the apathy of Mrs. Shandy, esteem it a matter of utter indifference, "whether the world turns round or stands still;" he will, of course, benefit his pupils *just as much* by the common fums, as by

any that could be selected for him. But other instructors, possessing more animation and zeal, will occasionally require minute accounts of the historical, geographical, chronological, and other subjects which had before served as arithmetical themes. They will, perhaps, with the author, deem the time when the scholars are assembled in classes to repeat their tables (which, I shall take for granted, is always once a week) the best suited for promoting general emulation, and disseminating the desired knowledge among such as are less diligent, or less advanced. For this purpose I have found it highly beneficial to my pupils to give them a task out of the Index, enjoining them to acquire a perfect knowledge of the words, the exact situation of the places, &c. &c. that may occur in the respective parts of their lessons. The Questions for Examination are employed alternately, in the same manner, and also occasionally asked when the sums are presented for inspection*. It is,

* It will not, I trust, be thought irrelevant to the present subject to remark in this place, that, besides the method here recommended, of an attempt to diffuse, in a small degree at least, general knowledge, through the medium of a particular branch of education, a WRITING-MASTER has it, moreover, in his power, to introduce much miscellaneous information into the schools that he attends, by means of a judicious choice of copies for the senior pupils †, particularly geographical ones, (both sacred and profane) and such as contain historical facts, biographical anecdotes, &c. relative to *places, rivers,* and the like. These examples being transcribed by the scholar, committed to memory, the respective places sought in an atlas (a pursuit which will always afford great entertainment) and then recited to the master, *at the times above specified,* the pupil, withal, being enjoined to relate in what particular part of the map, section of the globe, &c. the places were found, will, in a short time, and with very little additional trouble to either

† See the Preface to my engraved Introduction to Arithmetic.

is, however, confessed, that the methods now proposed are impracticable in their *full extent*, except on the supposition that, during the master's absence, the senior pupils have access to books which treat more largely of some of the subjects recommended to their study. The mention of this circumstance naturally leads me to advert to the great utility of a school-library * for the use of those scholars.

In

party, be found to furnish even such as do not learn geography scientifically, with a considerable portion of the knowledge in question, and tend to impress, almost indelibly, upon the minds of those who do, the most valuable part of the lessons which they periodically receive in this delightful study. Let me add, that this is not a mere speculative, theoretical plan, but one the practicability and success of which have been sanctioned by more than forty years extensive experience. Thus circumstanced, I may, without an inexcusable presumption, consider myself as having *earned* the privilege of speaking with some degree of confidence on the subject. I do therefore most earnestly recommend to the younger part of my professional brethren, the adoption of a similar mode of instruction, as a certain way of augmenting their usefulness in life, of gratifying the intelligent part of their connexions, and of infallibly promoting their own interest and reputation.

* To a library properly furnished, the parents of such children as are capable of benefiting by it, could not reasonably object to subscribe 10s. 6d. a year; a sum which, in a tolerably large school, would, in no great length of time, completely reimburse the governess for the expence incurred by the first purchase of the books, and enable her to make occasional additions. In the former Editions of this Volume, I had suggested hints for the formation of a library suitable to the female mind and manners; but so many works of merit have recently been added to the stores of polite literature, and the talk of recommending some of these for selection in preference to others, might appear so invidious, that I shall presume on the good sense, taste, and discrimination of the governesses, for making their respective bibliothecal arrangements; only observing, in general terms, that they should comprise books of General History, Biography, Geography, Voyages and Travels,

In the best regulated seminaries vacant hours occur, many of which will be often wasted in the perusal of pernicious, or, at best, frivolous novels*, if better books are not at hand. We are fully

vels, Atlases ancient and modern, Dictionaries of Arts and Sciences, and the French and English Classics.—Having found them, on experience, well calculated for aiding the pupil in her studies, I may be allowed particularly to mention the *Pronouncing Dictionary* (called "*Sheridan Improved*") and "*The New Biographical Dictionary*" of Mr. STEPHEN JONES. This ingenious Author I have long most highly esteemed as a friend; but his productions I should not, merely on that account, here presume to recommend, if the public voice had not given an ample and honourable sanction to my humble testimony.

* "The frivolity of the age (says an elegant writer) affords very shameful encouragement to a species of literary composition called a NOVEL, which is nothing more than a *romance* taken from the manners of the times; and is, in general, worked up in such a form, as to *corrupt* the minds of *young women*, and to enable *old ones* to murder that time of which they have so little remaining." It is, indeed, possible, for excellent sentiments, and valuable knowledge, to be communicated in the form of a novel; but there are very few productions of this kind in our language; and, in general, it is much better for young persons to employ such time as they can spare for that purpose in the perusal of real history, and of biographical accounts of persons eminent for virtue and for knowledge. The early hours of youth are invaluable, and should be constantly improved; not always, indeed, in a direct manner, and with a professed aim at improvement; yet always as really, and as effectually, as if that was, as indeed it ought to be, the study of life. No book, therefore, should be put into their hands which does not actually increase their stock of knowledge, and either explicitly or implicitly promote virtue, general or particular. Now novel-reading not only indisposes those who indulge in it for all other kinds of reading, but eventually injures the health. I have been told, says Mr. Clarkson, by a physician of the first eminence, that music and *novels* have done more to produce the sickly countenances and nervous habits of

fully sensible, with Dr. Knox, that, as a regular course of history would too much interfere with other parts of learning in the academies of young gentlemen, some of the time of recreation must be allotted to the attainment of that invaluable acquisition. Females, in general, are exactly in the same predicament, and should, therefore, be encouraged to devote a part of those seasons of relaxation to the acquiring of a species of knowledge, which, however necessary and ornamental, the multiplicity of ordinary business renders unattainable at other times. It is hoped, that the following performance will not be thought altogether ill calculated to facilitate the desirable end just mentioned; as many of the questions in it either create some new idea, convey some useful or pleasing information, or *fix the date* of some memorable transaction; a circumstance deemed of such consequence by Mrs. Chapone, that she observes, "It is to little purpose that you are able to mention a fact, if you cannot nearly ascertain the time in which it happened; which alone, in many cases, gives importance to the fact itself." The same judicious writer elsewhere remarks, not inapplicable to the general design of the following compilation, that "whatever tends to embellish the understanding, and to furnish the mind with ideas to reflect upon when alone, or *to converse*

of our highly-educated females, than any other causes that can be assigned. The excess of stimulus on the mind, from the interesting and melting tales that are peculiar to *novels*, affects the organs of the body, and relaxes the tone of the nerves; in the same manner as the melting tones of music have been described to act upon the constitution, after the sedentary employment, necessary for skill in that science, has injured it.—

Portraiture of Quakerism.

upon in company, is certainly well worth the acquisition."

But let us direct our attention principally to female education, which judicious observers have represented as so eminently conducive to the welfare of a state. Now, in order to estimate the high obligations that women of cultivated minds may confer on the community, let us, first, reflect with Rousseau, that "the education of most consequence, is that which is received in infancy; and this first education belongs *incontestably* to the WOMEN." The early part of education must, therefore, be one of the mother's most appropriate and most important duties.

We shall select a few examples from the ancients, especially the Roman matrons, among whom the œconomical virtues, particularly indefatigable industry in the cultivation of the minds of their offspring, continued longest to flourish. Cornelia, mother of the Gracchi; Aurelia, of Julius Cæsar; and Accia, of Augustus, superintended the education of their respective children*. Among the GREEKS, he of whom antiquity, sanctioned by the testimony of an oracle†, boasts

* It is well observed in a recent publication by an ingenious French lady, that "Agricola owed to his mother the possession of that stayed wisdom which is so rare, and of such difficult attainment. Louis the 12th, Francis the 1st, and Henry the 4th, are instances which shew the utmost importance of the education given to children by their mothers. Louis caused justice and humanity to reign; Francis was the patron of letters; while Henry was the father of his subjects, and France never had a greater or a better king."

Introduction to Madame Briguet's Dictionnaire Historique, &c.

† Whom well inspired the oracle pronounced
Wiseſt of men,

Milton's Par. Regained, B. iv.
itself

itself as of the wisest of mortals, who is called by a modern author "the Philosophic Patriarch, and the divinest man that ever appeared in the heathen world," even SOCRATES himself, derived considerable advantage from the conversation of Diotime and Aspasia, women who are said to have been excellently learned.

Why, demanded a Persian ambassador, are women held in such high estimation at Lacedæmon? Because, replied the consort of Leonidas, they only are competent to form men. To a Greek lady who displayed her jewels before Phocion's mother, and expressed a desire of seeing her's, the latter introduced her CHILDREN, saying, *These are my jewels and ornaments; I hope they will one day be all my glory.*

"Will the important business of DRESSING and going to public places," asks Dr. Knox, "prove so satisfactory to mothers, a few years hence, as the consciousness of having sown the seeds of virtue, taste, and learning, in the infant bosoms of their own offspring?" Piteable, indeed, is the mother, if she deserves the name, who knows not that such an office has sweets beyond the essence of perfumes, the giddy whirl of pleasure, and the incense of admiration!

If, in the next place, we observe, how greatly the conduct of men is influenced by the other sex; what effectual discouragement their aversion gives to *vice* and *ignorance* in their male relatives and acquaintance; "that," as the elegant writer just quoted pertinently observes, "the dignity of female virtue, consistently supported, is better calculated than any moral lesson to strike confusion and awe into the breast of the EMPTY and ART-

FUL VILLAIN* ; and that they may indeed become the BEST REFORMERS :” these, with other obvious considerations, will abundantly evince the singular advantages necessarily resulting from female improvement.

Should any doubts still remain of the very exalted benefits which, we contend, naturally and necessarily flow from female influence, let an appeal be made to matter of fact,—I mean to ancient and modern history. To select only two or three prominent and decisive instances, out of the innumerable examples which the records of all nations supply ; who is ignorant of the patriotic ardour, the invincible intrepidity, inspired by the truly *laconic* admonition of the Spartan matrons to their husbands and sons, when, after the last embrace that preceded an expected conflict, they charged them “ to return either WITH OR UPON THEIR SHIELDS †” In Dr. Gordon’s History of the

* Remarkable is the confession of a professed libertine on this subject : “ A chaste, a virtuous woman, is an awful character ; something preternatural seems to surround her, and shroud her from profane approach.”

LORD LYTTELTON’S *Posthumous Letters*.

She that has that †, is clad in complete steel ;
And, like a quiver’d nymph, with arrows keen,
May trace huge forests, and unharbour’d heaths :
Yea, there ; where very desolation dwells,
By grotts, and caverns, shagg’d with horrid shade,
She may pass on, with unblanch’d majesty
—Be it not done in pride, nor in presumption.

MILTON.

† It was the first and most inviolable law of war with the Spartans, never to flee, or turn their backs, whatever superiority of numbers the enemy’s army might consist of ; never to quit their post ; *never to deliver up their arms* ; in a word, either to conquer, or to die on the spot.—And sometimes those who were slain were brought home *upon their shields*.

† Chastity.

American

American Revolution, what decisive effects do we frequently perceive resulting from the exhortations of the DAUGHTERS OF LIBERTY, on that continent, to their near kindred and others, to root out oppression, and plant independence in the soil which the baleful weed had so long and so injuriously appropriated! In the heroic conflict which the Swiss maintained at Underwalden against their French invaders in 1798, many of the women and children fought in the ranks by their husbands and fathers and friends, and fell gloriously for their country*! Our own country affords instances equally animating. Its annals will, in the persons of the queens Boadicea †, Matilda ‡, Margaret §, and Elizabeth ||, as well as of ladies of inferior rank, exemplify not only how forcibly females have exhorted, but how magnanimously they have achieved. Of the distinguished success of the same sex, in almost every department of study, even the most cursory notice is superfluous, at least in England, where we are all admiring witnesses of the deep reflection, sterling eloquence, refined sentiment, and classic wit, which are displayed in many of their productions¶. What just appreciator, then,

of

* See Exer. on the Globes, 4th. edit. p. 398.

† See Index.

‡ Matilda defeated king Stephen, and took him prisoner at the battle of Lincoln, in 1141.

§ Margaret of Anjou, wife of Henry VI. signalized herself, by heading her troops, in several battles, against the house of York. See Chron. and Biog. Exer. 3d edit.

|| Every history of England is enriched with Elizabeth's speech to the troops which she had encamped at Tilbury-Fort, to oppose the expected Spanish invasion. See Armada, Index, and Chron. and Biog. Exer. 3d edit.

¶ To such of our young readers as may not be acquainted with the respective merits and names of our most celebrated

of the eminence of our fair countrywomen in every literary, not to say scientific, pursuit, will charge the author with the introduction of many questions irrelative to female education? or will censure him for having borrowed most of his themes from subjects in which, at this very day, so many adult ladies excel, rather than form questions in the common *routine* way*?

In the mean time, without undertaking a formal defence of the propriety of every individual question in this collection, I am encouraged to hope, that the candid and the serious part of the public will approve of a design (however imperfectly it may have been executed) which has for its chief objects, to facilitate the path of science; to allure the learner to mental exertions; to impress an early veneration and love for civil and religious LIBERTY; to exhibit the beauty of virtue, and the fatal consequences of vice and profligacy; to hold up to the admiration of the rising age characters eminent for patriotism, benevolence, and general philanthropy; and to their detestation and abhorrence those of despots, tyrants, and persecutors; to inculcate rational and manly ideas of government, and to enforce just notions concerning

female writers, we recommend the perusal of an instructive and entertaining performance entitled "DIALOGUES concerning the LADIES." A list of British female Literary Characters living in the 18th century may be seen in Randall's Letter to the People of England, or in the Monthly Visitor for May 1799, p. 61.

* The author is highly gratified in finding his plan sanctioned in one of the most popular treatises on Education † that has ever been published in this country.

† Miss Edgeworth's. See the annexed commendations of the Arithmetical Questions.

the

the inferior orders of society*. And I am the more emboldened to expect the public approbation on this occasion, by reflecting, that in my endeavours to promote those prime views, no new burthen has been imposed, nor any very considerable encroachment made on the time of the pupil; the information communicated being incorporated with a branch of education in which ALL *must* be conversant.

The title announces this small treatise as designed for the use of YOUNG LADIES, because the author's department of teaching is *solely* confined to them. Perhaps, however, it may be thought equally adapted to the other sex, when it is considered that a youth, capable of working through the *whole* book, and of delivering a satisfactory account of each operation, would be qualified for almost any of the common concerns of business. Vulgar and decimal fractions, and the extraction of roots, are of little utility, except in a few particular employments; and as to profit and loss, barter, fellowship, exchange, and some other rules which have distinct heads in most treatises of arithmetic, they all belong to the Rule of Three; and

* This idea has been recently countenanced by one of the highest characters in the nation†, and still more recently by another gentleman of rank in the law, in his judicial capacity. "The *poor*," said Mr. Justice Hardinge, addressing himself to a superior class of the community, "constitute the best wealth of the *rich*. Their love, and their esteem, is your proudest inheritance. It is not their *bread* alone (a degrading word), but their *immortal food*, their interest hereafter, as well as here, that is required by them from your liberality, your goodness of heart, and your example in virtue."

Charge to the Grand Jury at Brecon and Carmarthen Assizes, August 1805.

† Lord Chief Justice Kenyon. See Equality, Index.

the questions in each may be worked, with the greatest facility, by any one well versed in that and Practice.

The generality of the questions being too long for the learner's transcription, they have all been numbered. Accordingly, the number, with a word or two of the sum (for instance, No. 1, Chronology, No. 2, Solar System) will be a sufficient reference to the operation at large, at any future period. The pupil, however, if sufficiently qualified in writing, should by no means omit copying the whole process of each sum in a common cyphering-book; and if the places, rivers, or countries mentioned in the question (having been previously found on a map) be also written on a separate part of the leaf, it will considerably augment the scholar's geographical attainments. To prevent the possibility of plagiarism, and to perfect the students completely in this important branch of education, they should, on presenting a sum, be constantly made to assign a reason for every part of the operation, and, moreover, occasionally be exercised with a variety of *manuscript* sums.

WILLIAM BUTLER.

*Oxford-Court, Cannon-Street,
January 1, 1811.*

CRITICAL COMMENDATIONS

OF THE

ARITHMETICAL QUESTIONS.

“ **T**HOSE efforts which are bent towards the instruction of the rising generation, are not unworthy of the examination of the critic; and when, as in the present instance, the *utile* and *dulce* are happily blended, we should think we acquitted ourselves ill of our duty towards the public, if we withheld expressions of satisfaction. The dryness and dulness of books of arithmetic in general, have disgusted many with the study; the unlearned thinking it difficult and unentertaining, and the more learned, puerile and not worth attention. The plan is, to combine some historical, geographical, political, or philosophical fact with every arithmetical question; and, by these means, to convey some further instruction than is contained in books of this kind. The selections are entertaining, and well calculated to inspire a love of the study with which they are connected.”

Lit. Rev. Reg. Times, Sept. 1795, p. 351.

“ There is a high degree of novelty in the design of conveying so much important instruction in a treatise on arithmetic; and, without judging of its moral and political importance, we think it has considerable merit in the way of supporting and strengthening attention, by relieving and enlivening

enlivening the imagination. The author's method is ingenious, and his questions are selected with judgment."

English Review, Aug. 1796.

"In a book of common arithmetic we did not expect to find that variety of information which this work contains. The author's reading has been very extensive, and his researches seem to have been directed with a particular view to this publication. There is scarcely any subject, or any kind of knowledge, to which he is not desirous, with a very laudable zeal, of engaging the attention of his pupils; and, instead of composing a mere treatise of arithmetic, he has compiled an universal common-place book for their instruction. While he is professedly employed in teaching them the common rules and operations of numerical computation, he takes occasion to introduce a variety of topics in astronomy and geography, biography and chronology, mechanics and philosophy, natural, civil, and ecclesiastical history, politics and government, ethics and theology; and he ranges with them, generally in prose, but occasionally in verse, through the whole circle of sciences, sacred and profane. We applaud the assiduity and labour displayed in this work, as well as the motives that induced the author to devote so much time to the compilation of it. As a book of general instruction and amusement, altogether unconnected with arithmetical rules, it does honour to the compiler, and deserves to be recommended."

Monthly Rev. New Series, Vol. xxii. p. 209.

"Among the latest and most instructive works on the subject of Arithmetic, we mention BUTLER'S "Arithmetical Questions."

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EDGEWORTH'S *Practical Educ.* 2d edit. Vol. ii. p. 272.

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MONTHLY PRECEPTOR, Vol. vi. p. 154.

" The great utility of *Arithmetical Exercises*, and the dryness which attends their progress, are truths which cannot be disputed. Mr. BUTLER, however, has attempted, in the present work, to render the science of numbers agreeable even to youthful minds. The information which the author pours forth on every question is highly gratifying to the curiosity—and converts the uninteresting detail of pounds, shillings, and pence, into a most delightful source of entertainment. This volume, therefore, cannot fail of proving a very acceptable present to the rising generation. We, indeed, know of no book equally adapted to lead on the pupil with success in this species of intellectual improvement. Mr. B. seems to have ransacked every quarter for information, and his pages may be said to teem with variety. This indirect mode of communicating knowledge is sure of finding access to the mind, and has with writers of education been always a subject of commendation. We wish the ingenious and active author of the present work every possible success. May the pains he has taken in this, as well as his other productions, meet with an ample remuneration."

MONTHLY VISITOR, December 1801.

Mr.

Mr. BUTLER deserves our highest commendation : and we do not fear contradiction from any one competent to judge of the contents of his book, when we say, that we do not know a volume of its size in the English language, that contains so much rational entertainment and valuable information.—We shall only add, that the words in the title page, “ designed for the use of Young Ladies,” may convey an improper impression, to the prejudice in some degree of its reception ; for there is not any part of the book which, to our understandings, is not just as suitable to youth of the male sex as of the female ; and we recommend it, with perfect confidence, to the parents, guardians, and instructors of the rising generation, as a work of extraordinary merit and utility.

EUROPEAN MAGAZINE, Vol. 1. p. 129.

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† "The same attention to amuse by variety, while he instructs by appropriate selection, distinguishes Mr. BUTLER in this work."

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as was visible in his former productions. No remarkable circumstance or personage escapes his vigilance; and scarcely any term of science occurs which he does not either technically explain, or agreeably illustrate by some apt quotation from the best writers. This custom of Mr. B.'s is of infinite use, as it renders the task of study no less entertaining than improving; and courts the young mind to the purpose of the preceptor by hanging the avenues of science with wreaths of roses.

“ There is one peculiar excellence in this work which we do not recollect to have seen before adopted; it is that of recording the most remarkable circumstances *under every day in the year*; and thus rendering its diurnal use attractive by constant variety. Thus, for example, under Oct. 25, we find the death of King Stephen; the death of Chaucer the poet; the history of the battle of Agincourt; Charles Vth's resignation to his son Philip; the death of Calmet; the death of King George II. and the death of Hogarth; with the particulars of each person and event; and so under their respective dates, from Jan. 1 to Dec. 31.

“ Greater variety of information, or better adapted to juvenile minds, we never remember to have seen. Among the *biographical* articles we perceive some that have never appeared before in any shape, and many that have only been published in voluminous collections, to which young persons do not often find access.

London Review for August 1799.

“ Mr. BUTLER modestly restrains the use of the volume to young ladies, among whom his engagements seem principally to lie; but we see no reason why it may not be equally serviceable to young gentlemen.

“ We are much pleased with the author's mode of arrangement, which displays originality and taste, and is likely to have the happiest effect in impressing on tender minds a remembrance of some of the most remarkable events in sacred and profane history, particularly that part of the latter which relates to our own country.

“ Embracing so many various subjects, it cannot reasonably be expected that every article will be alike full and satisfactory; yet we know not where to name a manual more replete with useful and entertaining matter.”

Young Gentleman and Lady's Magazine for August 1799.

“ This is a comprehensive and judicious *melange*, fixing the dates, and recording the particulars, of the various events, places, and

this book is now in the press; and will be published as speedily as the author's stated avocations will permit.

IV.

EXERCISES ON THE GLOBES *; interspersed with historical, biographical, chronological, mythological, and miscellaneous

and persons, occurring in history, from the creation to the present time. The author, by appropriating circumstances to *every day in the year*, has rendered it an agreeable as well as useful diary of interesting and important information; and a copious index, which refers to every name in the work, adds much to its utility."

European Mag. for August 1799, p. 112.

" Mr. BUTLER has here selected some of the most interesting events of modern history; and arranged them according to the days of the year on which they happened. This is an excellent mode of impressing the memory, and must prove highly beneficial to the young mind.

" We recommend this ingenious work to masters of schools and heads of families; because by its assistance they can, with ease, store the minds of young people with useful information. Indeed, to persons of every description, it will prove an acceptable present, since it furnishes materials for rational conversation.

Monthly Visitor for November 1799.

* " Mr. BUTLER has, on former occasions, proved that he has been no idle attendant on the rising generation. He has, at least, the merit of having strewed over with flowers the steep and thorny paths of instruction.

" This volume contains a greater number of problems than we remember to have seen before collected: and the examples, by which each problem is illustrated, are many and various.

" In the part of the work that treats of the Celestial Globe, the remarks of poets, mythologists, and historians, concerning the various constellations, are introduced, and, sometimes, a brief sketch of the natural history of the several animals which they represent; together with some very pleasing anecdotes.—If our limits would allow us, we should have pleasure in transcribing some extracts from this part of the volume.

" It

miscellaneous information, on a new plan. The fourth edition, price 6s. bound.

V. A

“ It appears rather extraordinary to us, that a plan of instruction so well calculated to gratify that curiosity which the science itself must raise in youthful minds, has not before occurred to writers on this subject; as, without some such explanations, the various figures on the Celestial Globe must be wholly uninteresting, because perfectly unintelligible. The introduction of the Greek Alphabet, with the names and powers of the letters, though but a trivial circumstance in itself, is a happy thought,—as it enables the pupil readily to name the several stars by the characters assigned to them by astronomers.

“ The idea, also, of introducing into such of the problems as include days of the month, such days as have been marked by some memorable event, is not only novel in itself, but shews, that, throughout his work, the Author has kept in view the purpose of imparting general information, and of familiarising his pupils to the interesting paths of biography and history—paths in which, it may be expected, they will gain, at once, habits of virtue, and vigour of intellect.”

Lady's Monthly Museum, Vol. i. p. 481, &c.

“ Mr. BURLER has happily succeeded in his endeavours to render plain the first elements of geography and astronomy. His definitions are clear, and his problems are introductory to each other; so that the solution of them may be effected with a greater degree of facility.

“ The miscellaneous notes scattered throughout the volume, are extremely valuable; they contain much information, and will give youth a pleasing insight into the propriety of the manner of the several constellations into which the stars are divided. Without such a knowledge the Heavens seem confused; but when we have attended to the real origin of the divisions, we shall find that they allude to some of the most important incidents in the page of ancient history. In this point of view the firmament resembles a mighty RACON, where the eye of science discerns traces of wisdom which, otherwise, would have for ever lain concealed in the folds of obscurity.”

Monthly Visitor, Vol. xi. p. 316.

“ We have no scruple in saying, that this is one of the best books of the kind that have come before us. It agreeably blends a great deal of amusement with much important instruction, is very ingeniously arranged, and, what is not its least merit, is very neatly printed.”

British Critic for July 1805.

“ The

V.

A numerous Collection of ARITHMETICAL TA-

“ The didactic part of this work is well arranged and perspicuously expressed ; and no small pains have evidently been bestowed in garnishing it with anecdote, micellaneous information, and poetical extracts. Upon the whole, Mr. BUTLER deserves well of the public for having prepared the cup of useful elementary knowledge, and at the same time tipped its rim with honey.”

Critical Review for July 1805.

“ This work has undoubtedly merit, and contains much useful information.”

Monthly Review for Sept. 1805.

“ This ingenious work is well worthy the attention of those for whom it is designed—Young Ladies.”

Monthly Mirror for Sept. 1805.

“ In a judicious manner this Author has here, as in his former productions, contrived to blend amusement with instruction. The Problems are more numerous than in any book of the kind that we have before seen, and the definitions are precise and easy of comprehension. But, in a manner that we think peculiar to himself, Mr. BUTLER has contrived to intersperse so much miscellaneous information among the scientific parts of his work, as must necessarily cultivate the mind and enlarge the ideas of the fair pupil on general subjects, while she seems to be studying geography only. On the whole, we think these “ Exercises ” a very desirable accession to the stock of school literature.”

London Review, European Magazine for August 1801.

“ Of Mr. BUTLER’S “ Exercises ” it may be affirmed, that it would be difficult to fix upon any book of equal size, that contains so much interesting matter, collected from various sources, on almost every subject ; and always illustrative of some historical fact, or of some important invention, or devoted to the celebration of heroic deeds in ancient and modern times.

AIKIN’S Ann. Review, 1808, Vol. vii.

BLES,

TABLES*, designed for the use of Young Ladies. Price 3s.

* " Mr. BUTLER has, in this little pamphlet, brought together, with his accustomed accuracy, various tables with which it is necessary that the minds of the youth, of both sexes, should be made thoroughly acquainted. The profoundest sciences have their respective elements —without a knowledge of which they appear to be a jumble of disorder and confusion. In the art of teaching, therefore, the competent tutor will pay due attention to the first principles of what he teaches —for the foundation being once well laid, the superstructure can be raised with pleasure and facility."

Monthly Visitor for March 1801.

" These Tables comprise many useful and indispensable articles explanatory of weights, measures, and value of coins, over and above those usually put into the hands of pupils in the art of arithmetic."

London Review, European Mag. for January 1804.



* * WRITING, ACCOUNTS, and GEOGRAPHY,
taught in LADIES' SCHOOLS, by Messrs. BUTLER,
BOURN, and BUTLER, Junior.

ARITHMETICAL

ARITHMETICAL QUESTIONS.



A R I T H M E T I C

IS a science, which explains the properties of numbers, and shows the method or art of computing by them. It has five principal rules, NUMERATION, ADDITION, SUBTRACTION, MULTIPLICATION, and DIVISION; and these are the foundation of all arithmetical operations.

We have very little information respecting the origin and invention of arithmetic: history neither fixes the author of it, nor the time of its discovery. Some imagine, that it must have taken its rise from the introduction of commerce, and ascribe its invention to the Tyrians. That it had a much earlier introduction into the world, however, even before the deluge, we may gather from the following expression in the prophecy of Enoch, as mentioned by Jude: "Behold the Lord cometh with ten thousand of his saints." This shows that, even in those days, men had ideas of very high numbers, and computed them likewise in the same manner that we do; namely, by tens. The directions also given to Noah, concerning the dimensions of the ark, leave us no room to doubt that he had a knowledge of numbers, and likewise of measures. When Rebecca was sent away to Isaac, Abraham's son, her relations wished that she might be the mother of thousands of millions; and if they had been totally unacquainted with the rule of multiplication, it is impossible to conceive that they could have formed

B

such

such a wish. It appears certain, therefore, that the four fundamental rules of arithmetic were known, in some nations, in very early ages of the world ; though at what time they were discovered or invented cannot now be exactly ascertained.

The Greeks were the first European people among whom arithmetic arrived at any great degree of perfection, and they made use of the letters of the alphabet to represent their numbers. The Romans followed a like method, and, besides characters for each rank of classes, they introduced others for five, fifty, and five hundred. Their method is still used for distinguishing the chapters of books and some other purposes. From the Romans arithmetic came to us ; but the common arithmetic amongst us, which makes use of the ten Arabic figures 1, 2, 3, 4, 5, 6, 7, 8, 9, 0; was utterly unknown to the Greeks and Romans, and came into Europe from the Arabians by way of Spain. The Arabians are said to have received them from the Indians. This most perfect method of supputation is supposed to have taken its origin from the ten fingers of the hand, which were made use of in computations, before arithmetic was brought into an art. The Eastern missionaries assure us, that to this day the Indians are very expert at computing on their fingers without any use of pen or ink. And the natives of Peru in South-America, who do all by the different arrangement of grains of maize, are said to excel, both for certainty and dispatch, any European with all his rules.

N U M E R A T I O N

TEACHES to read or write any proposed sum, and to find the different value of any given number of figures.

E X A M P L E S .

Write down in words at length the following numbers :
12, 24, 52, 265, 960, 1008, 1760, 8766, 25020.

Write

Write down in figures the following numbers: Twenty-five. Forty-five. One hundred and fifty. Four thousand and four. One thousand eight hundred and ten. Sixty-six thousand. Seven millions two thousand three hundred and twenty-nine. Eighty-four millions. Nine hundred and six millions, four hundred and ten thousand, five hundred and forty-one.

No. 1. CHRONOLOGY.—Chronology is the art of measuring and distinguishing time past, and referring each event to the proper year. Its use is very great, being called one of the eyes of history. Epochs, in chronology, is a term or fixed point of time, whence succeeding years are numbered or computed. That principally regarded among Christians is the epoch of the Nativity of our Saviour; that of the Mahometans the Hegira; that of the Jews the Creation of the world; that of the ancient Greeks the Olympiads; that of the Romans the Building of their city, and that of the ancient Persians and Assyrians the epoch of Nabonassar king of Babylon, its institutor, 746 years B. C. The building of Rome took place 753 years B. C. The Olympics or Olympic games, so famous among the Greeks, were instituted in honour of Jupiter. They were holden at the beginning of every fifth year, on the banks of the Alpheus, near Olympia, in the Peloponnesus, now the Morea, to exercise their youth in five kinds of combats. Those who were conquerors in these games were highly honoured by their countrymen. The prize contended for was a crown made of a peculiar kind of wild olive, appropriated to this use. The Olympiads ended with the year of Christ 440, making in all 364. The Hegira, or flight of the impostor Mahomet, the founder of the Mahometan religion, from Mecca to Medina, happened A. D. 622*. The computation of years from the birth of Christ did not begin to be used in history till the sixth century. The current year of the Christian æra is 1810.

N. B. A. M. denotes Anno Mundi, the year of the world; U. C. Urbe conditâ (ab, from, being understood) the building of the city, *i. e.* of Rome; B. C. before

* See Chron. and Biog. Exer.

Christ; A. C. Ante Christum, before Christ; A. D. Anno Domini, in the year of our Lord.

No. 2. SOLAR SYSTEM.—By the solar system is meant the order and disposition of the several heavenly bodies, which revolve round the SUN, as the centre of their motion, and receive from it their light and heat. These celestial spheres consist of planets and comets. Under the denomination of comets are comprised Mercury, Venus, the Earth, Mars, Jupiter, Saturn, the Georgium Sidus, Ceres, Pallas, and Vesta. The last four have been recently discovered. See Exercisea on the Globes, 4th edition.

Mercury is said to be about 37,000,000 of miles from the sun; Venus 68,000,000; the Earth 95,000,000; Mars 145,000,000; Jupiter 495,000,000; Saturn 908,000,000; and the Georgium Sidus about 1,800,000,000 of miles distant from the sun.

The hourly motion of Mercury in its orbit is about 109,000 miles; Venus 80,000; the Earth 68,000; Mars 55,000; Jupiter 29,000; Saturn 22,000. Saturn is supposed to be more than 90 times as big as the globe which we inhabit. According to the same calculation, Jupiter is above 200 times larger than the earth.

It has been remarked, that the planets, and all the innumerable host of heavenly bodies, perform their courses and revolutions with so much certainty and exactness, as never once to fail; but, for almost 6000 years, come constantly about to the same period, without the difference of the hundredth part of a minute.

It is also observed by Mr. Hervey, that “it may seem unaccountable, to an unlearned reader, that astronomers should speak such amazing things, and speak them with such an air of assurance, concerning the distances and magnitudes, the motions and relations of the heavenly bodies. I would desire, continues the same ingenious writer, such a person to consider the case of the ECLIPSES, and with what exactness they are calculated. They are not only foretold, but the very instant of their beginning is determined. The precise time of their continuance is assigned; assigned almost to the nicety of a moment, and what is still more surprising, for the space of hundreds or
thousands

thousands of years to come. As this is a matter of fact absolutely indisputable, it is also a very obvious yet solid demonstration, that the principles of science, on which those calculations proceed, are not merely conjecture, or precarious supposition, but have a real, a certain foundation in the nature and constitution of things."

How vast His power, that launch'd those shining orbs
In empty space, and bade them circling roll
Their mighty rounds, eclipsing and eclips'd,
In mystic dance; from age to age upheld,
Unerring in their course! Beyond that sun,
Afar, ten thousand thousand systems roll,
And countless orbs, the seats of life and joy,
Revolving worlds that crowd the vast profound,
And dread Omnipotence aloud proclaim,
But far transcend the reach of human thought,
To scan their distance, magnitude, and laws.

CRIBIE.

No. 3. COMETS.—Comets are defined to be solid compact bodies, like other planets, and regulated by the same laws of gravity. They move about the sun in very eccentric orbits, and are of a much greater density than our earth; for some of them are heated, in every period, to such a degree as would vitrify or dissipate any substance known to us. Comets are always attended with long transparent trains, or tails, issuing from that side of them which is turned away from the sun: that which appeared in 1680 drew after it a tail of fire that was computed to be 80,000,000 miles in length. The use of the comet's "huge vapoury train" is

—————perhaps to shake
Reviving moisture on the numerous orbs
Thro' which his long ellipsis winds; perhaps
To lend new fuel to declining suns,
To light up worlds, and feed the eternal fire.

THOMSON.

There are supposed to be a considerable number of comets belonging to the solar system; but the periods of

three of them only are known with any certainty*. These return at intervals of 75, 129, and 575 years. Dr. Halley, at first, supposed the comets of 1532 and 1661, to be one and the same; and though he afterwards seemed to retract this opinion, it has been generally adopted by astronomers. They accordingly expected its return, making an allowance for its retardation, in 1789. Agreeably to this conjecture, Dr. Maskelyne had calculated that it might be certainly expected before the 27th of April in that year. In this instance, however, the expectation of astronomers has been disappointed; and it remains for future observation to ascertain the periodical return of this eccentric planet.

The comet which appeared in 1680, travelled, when nearest to the sun, with the amazing velocity of 880,000,000 of miles in an hour. Its greatest distance from the sun is computed at 11,200,000,000 of miles, and its least distance at 490,000, at which time it is said to be 2000 times hotter than red hot iron. This comet approaches, in one part of its orbit, very nearly to the orbit of our earth; so that, according to some eminent philosophers, it may, in some future revolutions, approach near enough to have very considerable, if not fatal effects upon it. See Exer. on the Globes, 4th edit. art. Comets.

No. 4. FIXED STARS.—These are so called, because they always maintain the same position, or relative distance from each other; their apparent diurnal motion being caused solely by the earth's turning on its axis.

The fixed stars are supposed to be so many suns equal in dimensions to our sun, and each star is held to be the centre of a system, and to have planets or earths revolving round it, in the same manner as our sun; or, in other words, that many opaque bodies are illuminated, warmed, and cherished by its light:

* It is mortifying, says the late famous French astronomer La Lande, that, at present, we know not whether we are to reckon comets by hundreds or by thousands;—whether they return, or are lost in the immensity of the universe.

Consult with reason, reason will reply,
 Each *lucid point* which glows in yonder sky
 Informs a *system* in the boundless space,
 And fills, with glory, its appointed place :
 With beams unborrow'd brightens other skies ;
 And worlds, to thee unknown, with heat and life supplies.

THE UNIVERSE.

Mathematicians assert, that Sirius*, or the Dog Star, is the nearest to us of all the fixed ones ; and they compute its distance from our earth at 2,200,000,000,000 of miles. They maintain that a sound would not reach our earth from Sirius in 50,000 years ; and that a cannon-ball, flying with its usual velocity, of 480 miles an hour, would consume 523,211 years in its passage thence to our globe.

No. 5. OF THE INVENTION OF ALPHABETICAL LETTERS, AND THE ART OF WRITING.—Writing is the art of conveying our ideas to others by letters, or characters visible to the eye. To whom we are indebted for this admirable and useful discovery, does not appear. Many learned men have supposed, that the alphabet was of divine origin ; and several writers have asserted, that letters were first communicated to Moses by God himself ; whilst others have contended, that the decalogue was the first alphabetical writing. Again, many authors have decided in favour of the ancient inhabitants of Egypt :

“ There first the marble learn'd to mimic life,
 “ The pillar'd temple rose, and pyramids,
 “ Whose undecaying grandeur laughs at time ;
 “ *Birth-place of letters* ; where the sun was shown
 “ His radiant way, and heavens were taught to roll.”

Others have maintained the claim of the Phœnicians to the invention of letters :

Phœnicians first, if ancient fame be true,
 The sacred mystery of letters knew :
 They first, by notes in various lines design'd,
 Expres'd the meaning of the thinking mind ;

* See Exercises on the Globes, 4th edition.

The power of words by figures rude convey'd,
And useful science everlasting made.

Rowe's *Lucan's Pharfalia*.

The Chaldeans have also had several learned advocates, who have attributed the invention of letters to the patriarch Abraham; and Sir Isaac Newton, in particular, admits that letters were known in the Abrahamic time for some centuries before Moses.

Mr. Gilbert Wakefield was one of those learned writers, who maintained, that the art of alphabetical writing appears to be of divine origin: in his ingenious Essay on this subject, he observes, that the Phœnicians, and their colonists the Carthaginians, spoke the *Hebrew* language, or a dialect scarcely varying from the original; and that all the languages in use among men, which have been conveyed in *alphabetical characters*, were the languages of people connected ultimately, or immediately, with those who have handed down the earliest specimens of writing to posterity, viz. the authors of the first five books of the Old Testament; which are acknowledged by all to be, not only the most ancient compositions, but also the most early specimens of alphabetical writing, at present existing in the world.

Mr. More, in his Essay upon the Invention of Writing, informs us, that the various combinations of the 24 letters, and none of them repeated twice, will amount to 620,448,401,733,239,439,360,000. But Clavius, the Jesuit, who also computed these combinations, makes the numbers to be but 5,852,616,738,497,664,000.

No. 6. DIFFICULTY OF APPREHENDING HIGH NUMBERS.—As very high numbers are somewhat difficult to apprehend, we naturally fall on contrivances to fix them in our minds, and render them familiar: but notwithstanding all the expedients that we can contrive, our ideas of high numbers are still imperfect, and generally far short of the reality; and though we can perform any computation with exactness, the answer that we obtain is often incompletely apprehended.

It may not be amiss to illustrate, by a few examples, the extent of numbers which are frequently named without being

being attended to. If a person employed in telling money reckon an hundred pieces in a minute, and continue at work ten hours each day, he will take nearly seventeen days to reckon 1,000,000; a thousand men would take 45 years to reckon 1,000,000,000,000. If we suppose the whole earth to be as well peopled as Great-Britain, and to have been so from the creation, and that the whole race of mankind had constantly spent their time in telling a heap consisting of 1,000,000,000,000,000,000,000,000 of pieces, they would hardly have yet reckoned a thousandth part of that quantity.

Ency. Brit. art. Arithmetic.

A D D I T I O N

TEACHES to add several sums together into one whole, or total.

E X A M P L E S.

No. 7. CREATION OF THE WORLD. Man, as the pious Hervey remarks, being greatly beloved by his Creator, is constituted master of this globe. The fields are his exhaustless granary: the ocean his vast reservoir. The animals spend their strength to dispatch his business; resign their clothing to replenish his wardrobe; and surrender their very lives to provide for his table:

Man, more divine, is master of all these,
Lord of the wide world, and wide wat'ry seas,
Indued with intellectual sense and soul,
Of more pre-eminence than fish and fowl.

SHAKSPEARE.

For him kind nature wakes her genial pow'r,
Suckles each herb, and spreads out ev'ry flow'r;
Annual for him, the grape, the rose renew
The juice nectareous, and the balmy dew;

B 5

For

For him the mine a thousand treasures brings;
For him, health gushes from a thousand springs.

POPE.

Being thus distinguished by the goodness of the Almighty, let us distinguish ourselves by our gratitude. Let it be our undivided aim, to glorify him, who has been at so much expence to gratify us: and, in particular, let ingenuous youth hence learn "to remember their Creator in the days of their youth."

The common opinion is, that the creation took place in the spring*; and Milton, in saying that the Pleiades danced before the sun at the creation, plainly intimates the same sentiment, because the constellation Taurus (in whose neck the Pleiades are situated) rises about the vernal equinox; hence those seven stars are called by the Latins *Vergiliæ*. See Exer. on the Globes, 4th edit.

According to most chronologers, the world was created 4004 years B. C.; how old is it this present year 1810?
Ans. 5814 years.

No. 8. DELUGE.—The inhabitants of our earth, excepting Noah and his family, were destroyed for their wickedness by a flood. This direful event is described in the 6th, 7th, and 8th chapters of Genesis; Noah being, as the sacred historian relates, "a just man and perfect in his generation, found grace in the eyes of the Lord," and was preserved in the ark, as were also his family, and a certain number of beasts and birds to replenish the earth:

Of ev'ry beast, and bird, and insect small,
Came sev'ns, and pairs, and enter'd in, as taught
Their order: last the sire, and his three sons
With their four wives.

Mean time down rush'd the rain
Impetuous, and continued till the earth
No more was seen; the floating vessel swum
Uplifted, and secure with beaked prow
Rode tilting o'er the waves; all dwellings else
Flood overwhelm'd, and them with all their pomp
Deep under water roll'd.

MILTON.

* See Chron. and Biog. Exer. 4th edit. Sept. 1, 5508 B. C.
Upon

Upon the assuaging of the waters; the ark "fast on the top of some high mountain fix'd*;" and Noah went forth and built an altar to Jehovah; receiving from the Lord, at the same time,

A cov'nant never to destroy
The earth again by flood, nor let the sea
Surpass his bounds, nor rain to drown the world.

MILTON.

The token of this covenant was the "triple-colour'd bow," which, it is supposed, did not appear before the deluge; the earth prior to that æra being watered daily by a thick *mist*, and consequently there could be naturally no *rainbow*, which is made by the refraction of the sun's rays in the drops of falling *rain*; a discovery which we owe to the immortal Newton:

Mean time refracted from yon' eastern cloud,
Bestriding earth, the grand ethereal bow
Shoots up immense, and every hue unfolds,
In fair proportion running from the red,
To where the violet fades into the sky.
Here, awful NEWTON! the dissolving clouds
Form, fronting on the sun, thy show'ry prism,
And to the sage-instructed eye unfold
The various twine of light, by thee disclosed
From the white-mingling maze.

THOMSON.

There are also occasionally lunar rainbows. The moon, says Miss Williams, when we were on the mountains of Glaris, rising behind us suddenly, threw her bright beams on an immense vaporous mass of pitchy dark clouds, and presented to our gaze a perfect rainbow, chastened in its colours by the soft reflection of lunar light †. See Chron. and Biog. Exer. Sept. 10, 1802.

* The elevated spot on which the ark rested is supposed to have been Ararat in Armenia; sometimes called the Gordyæan mountain. It is situated west of the Caspian sea, about twelve leagues from Erivan, the capital of Persian or Greater Armenia.

† Tour in Switzerland, vol. ii. p. 67.

Solar rainbows in our latitude are only seen in the mornings and evenings, when the sun is not much more than forty-two degrees high. In the more northern latitudes, where the meridian sun is not more than forty-two degrees high, they are also visible at noon.

As the antediluvian world perished by the flood, so shall the present world, which we inhabit, be destroyed by fire; and some eminent astronomers have imagined, that a comet will be the instrument of this dreadful conflagration; when, as Shakspeare emphatically expresses it,

The cloud-capt towers, the gorgeous palaces,
The solemn temples, the great globe itself,
Yea, all which it inherit, shall dissolve;
And, like the baseless fabrick of a vision,
Leave not a rack behind.

Or, agreeably to language still more awful, *The heavens being on fire shall be dissolved, and the elements shall melt with fervent heat.* 2 Pet. iii. 12.

The deluge happened 2356 years B. C.; how long is that ago this present year 1810? *Ans.* 4166 years.

No. 9. THE CALLING OF ABRAHAM*.—Abraham, the father and stock whence the faithful sprung, was the son of Terah. He was descended from Noah by Shem, and was born in the city of Ur, in Chaldea†. He died at the age of 175 years, and was interred in the cave of Machpelah, near the body of Sarah his first wife. Machpelah was near Hebron, which was about twenty miles southward of the spot where the city of Jerusalem was afterwards built.

* Abraham denotes a father of a great multitude: his former name Abram, (See Gen. xvii. 5.) an high father.

† Chaldea, taken in a larger sense, included Babylonia; as in the prophecies of Jeremiah and Ezekiel. In a restricted sense, it denoted a province of Babylonia, towards Arabia Deserta; called in scripture, *The land of the Chaldeans*. Ur is supposed to have been situated near the river Euphrates, in about 32 degrees of North lat. The province of Mesopotamia, a tract of land which lay between the Euphrates and the Tigris, is sometimes confounded with Chaldea. That some part of Mesopotamia was occupied by the Chaldeans, seems to be confirmed by Acts vii. 2, 4. See the author's Scripture Maps.

Abraham

Abraham is said to have been well skilled in many sciences, and to have written several books. Josephus informs us, that he taught the Egyptians arithmetic and geometry; and, according to other writers, he instructed the Phœnicians, as well as the Egyptians, in astronomy. This illustrious patriarch, who, for his faith, piety, and obedience, was honoured with the high titles of the "father of the faithful, and the friend of God," was called to be the father of a chosen people 1921 years B. C.

Him God the Most High vouchsafed
To call by vision from his father's house,
His kindred and false gods, into a land
Which he did show him, and from him did raise
A mighty nation, and upon him shower
His benediction; so that in his seed
All nations of the earth were blest'd.

MILTON.

Many of the inhabitants of the East-Indies, not only Christians and Mahometans, but even the Indians and Infidels, have a traditionary knowledge of the patriarch Abraham, and speak highly in commendation of him.

How long has the calling of Abraham preceded the present year 1810? *Ans.* 3731 years.]

No. 10. SKETCH OF THE HISTORY OF MOSES*.—Moses, the great Jewish legislator, was the son of Amram and Jochebed, of the tribe of Levi. He was born in Egypt, in the N. E. part of Africa. In consequence of a murderous edict issued by the tyrant and persecutor Pharaoh, king of that country, he was, shortly after his nativity, exposed upon the river Nile, in an ark of

* The name Moses imports being drawn up, or taken out of the water. Exodus ii. 10.

† As justice should be done even to a tyrant, we shall quote a remark of the celebrated Dr. Jortin's respecting Pharaoh. "This despot (says that learned writer), tyrant and persecutor as he was, never compelled the Hebrews to forsake the religion of their fathers, and to adopt that of the Egyptians. Such improvements in persecution, adds that great man, were reserved for *Christians!!!*"

bulrushes.

bulrushes*. From this perilous situation he was rescued by the humane daughter of the merciless despot, who "took him up, and nourished him for her own son, and he became learned in all the wisdom of the Egyptians, and was mighty in words and in deeds." See Exodus ii. and Acts vii. 21, 22.

About the 80th year of his age, Moses, after performing a number of miracles in Egypt, quitted that kingdom with 600,000 Israelites, besides children, who all miraculously passed through the RED SEA ;

Whose waves o'erthrew
 Bufiris† and his Memphian‡ chivalry
 While with perfidious hatred they pursued
 The sojourners of Goshen§, who beheld
 From the safe shore their floating carcasses
 And broken chariot-wheels||.

MILTON.

Having thus experienced the divine interposition, the Israelites traversed "the wild desert," and arrived at Mount SINAI, where

God himself
 In thunder, lightning, and loud trumpets sound,
 Ordain'd them laws; part such as appertain
 To civil justice, part religious rites
 Of sacrifice, informing them, by types
 And shadows, of that destin'd seed to bruise
 The serpent, by what means he should achieve
 Mankind's deliverance.

MILTON.

* By bulrushes is supposed to be meant the papyrus, a reed which grew in the river Nile, with which they made ships or floops. See Isaiah xviii. 2.

† Bufiris is a name which was borne by many Egyptian princes.

‡ Memphis was a celebrated town of Egypt on the Western banks of the Nile; in its neighbourhood the famous pyramids were built.

§ Goshen was the best and most fertile portion in the district of Ramefis, which bordered upon the banks of the Nile, near Heliopolis. It was given by Joseph to his father and brother. Gen. xlvii. 11.

|| In commemoration of this signal deliverance, Moses composed a song (see Exodus ch. xv.), which has been said to be the most ancient piece of poetry in the world, and is justly admired for its sublimity.

In

In Moses, says Dr. Hunter (Sacred Biography), we have a bright example of genuine patriotism. That most respectable quality appeared in him early, and shone most conspicuously at last. When he was come to years, he refused to be called the son of Pharaoh's daughter; choosing rather to suffer affliction with the people of God, than to enjoy the pleasures of sin for a season. For Israel's sake, he was willing to encounter a thousand dangers, to endure a thousand hardships. For them he braved the wrath of a king; for them he laboured, fasted, prayed; in their service was his life spent, and his dying breath was poured out in pronouncing blessings upon them.

The compositions of Moses appear to be the oldest writings in the world:

He first taught the chosen seed,
In the beginning, how the heav'ns and earth
Rose out of chaos.

MILTON.

Moses received the decalogue 1491 years B. C. How long is that ago this present year 1810? *Ans.* 3301.

No. 11. SIEGE OF TROY.—Troy was situated on a small eminence near mount Ida in Asia, at the distance of about four miles from the N. E. part of the Archipelago. The siege of this place, which is the most famous, though not the longest*, of any among the ancients, was undertaken by the Greeks, to recover Helen, whom Paris, the son of Priam king of Troy, had carried away from the house of Menelaüs her husband, king of Sparta. All Greece combined to revenge the cause of this prince; and Agamemnon, brother of the injured Menelaüs, was chosen general of the confederate forces. After the siege of Troy had been carried on for ten years, the town was taken by the Greeks, who immediately destroyed it by conflagration, and put such of the inhabitants, as could not escape by flight, to the sword, or carried them away captive. It is not certain whether Troy was subdued by force,

* The siege of Tyre, by Nebuchadnezzar, lasted 13 years; and that of Azoth, by Psammeticus, 29 years.

stratagem,

stratagem, or treachery. All agree that it was taken by night, and the poets maintain that the Greeks made themselves masters of it by artifice. They are said to have made a wooden horse capable of containing a considerable number of armed men; this they filled with the choicest of their army, and then pretended to raise the siege; upon which the credulous Trojans, at the instigation of one **SINON**, a crafty, perjured Greek, brought this fatal animal, which the author of *Hudibras* humorously styles "The Trojan mare in foal with Greeks," into the city; and in the night the enclosed heroes rushed out, and opened the gates to their companions, who had returned from the place of their concealment. The wooden horse was fabricated by **EPHEUS**.

The sacking of Troy happened 1184 years B. C. How long is that ago this present year 1810? *Ans.* 2994 years.

N. B. The misfortunes of Troy have furnished the subject of the two most perfect epic poems* in the world, namely, the **ILIAD** and the **ODYSSEY**, written by **HOMER**, a celebrated Greek, who flourished about 340 years after the siege, and is commonly accounted a native of Smyrna.

The subject of the *Iliad* is the wrath of Achilles, which proved so fatal to the Greeks when besieging Troy. The *Odyssey* recounts the voyages and adventures of Ulysses, after the sacking of that city. The same interesting story has likewise supplied some of the most splendid materials for Virgil's admirable poem of the **ÆNEID**, written in honour of Æneas. See Virgil, Index.

Alexander the Great was so fond of Homer that he generally placed his compositions under his pillow, with his sword; and he carefully deposited the *Iliad* in one of the richest caskets of Darius, king of Persia, whom he had conquered; observing, that the most perfect work of human genius ought to be preserved in a box the most valuable and precious in the world.

HOMER, **VIRGIL**, and **MILTON**, are considered as the three greatest poets that ever lived:

* An epic poem is an heroic poem reciting some great and signal transactions of a hero. Those of Homer and Virgil, the *Jerusalemme* of Tasso, the *Paradise Lost* of Milton, and the *Henriade* of Voltaire, are the principal poems of the epic kind. See Chron. and Log. Exer. 4th edit. art. Klopstock.

Three poets in three distant ages born,
 Greece, Italy, and England did adorn.
 The first in majesty of thought surpass'd,
 The next in gracefulness: in both the last.
 The force of nature could no further go,
 To make a third she join'd the other two.

DRYDEN.

The late Dr. Johnson, though he was strongly prejudiced against Milton on account of his political opinions, yet thought so highly of his talents, and of his Paradise Lost, that he says of him, "He was born for whatever is arduous; and his work is not the greatest of heroic poems, only because it is not the first;" evidently ranking him above Virgil.

No. 12. JERUSALEM TAKEN BY NEBUCHADNEZZAR.—NEBUCHADNEZZAR, king of Babylon, took the city of Jerusalem * by storm, and made a terrible slaughter of the inhabitants. Zedekiah's two sons were, by Nebuchadnezzar's orders, killed before their father's face, with all the nobles and principal men of Judah. Zedekiah himself had both his eyes put out, was loaded with fetters, and carried to Babylon, where he died in prison. The city and temple were pillaged and burnt, and all the fortifications demolished, 588 years B. C. How long is that ago this present year 1810? *Ans.* 2398 years.

N. B. It was in the reign of Nebuchadnezzar that the three young Hebrews SHADRACH, MESHACH, and ABEDNEGO, who with an invincible courage refused to comply with the king's impious commands respecting the worship of the golden image, were miraculously preserved in the midst of the burning fiery furnace †. Great numbers of the Jews had been carried captive to Babylon some years before the destruction of Jerusalem ‡. Among the captives were DANIEL and EZEKIEL.

No. 13. BABYLON TAKEN BY CYRUS.—The taking of Babylon is one of the greatest events in ancient

* 2 Kings xxv. 1, &c. Jer. xxxix and lii.

† Dan. iii. ‡ 2 Kings xxiv. 10, &c.

history; and the principal circumstances by which it was attended, were long before minutely foretold in the Holy Scriptures. The pious Rollin, in his history of Cyrus*, has remarked on this occasion, "that nothing can be more proper to raise in us a profound reverence for religion, and to give us a great idea of the DEITY, than to observe with what exactness he reveals to his prophets the principal circumstances of the besieging and taking of this famous city, not only many years, but several ages before it happened." Prophecy is in fact a permanent miracle on earth: a voice which speaks from heaven, and proclaims its author to all nations and ages.

The predictions respecting the total ruin and destruction of this proud and triumphant capital, which had so long oppressed the earth, and shed the blood of its inhabitants, may be read in the writings of Jeremiah, Daniel, and particularly Isaiah, who has composed an ode on the occasion, which, as the ingenious writer just quoted remarks, for elegance of disposition, sublimity of sentiment, boldness of colouring, beauty and force of expression, stands unrivalled among all the monuments of genius which antiquity has transmitted to modern times.

The prophetic denunciations were executed upon Babylon (which was the capital of the Assyrian empire, and situated upon the river Euphrates) by Cyrus, 538 years B. C. just 50 years after Nebuchadnezzar had destroyed the city of Jerusalem and her temple. How long is that ago this present year 1810? *Ans.* 2348 years.

NO. 14. DESTRUCTION OF DIANA'S TEMPLE.—

The celebrated temple of Diana, at Ephesus, in Asia, on the confines of the Archipelago, was reckoned one of the wonders of the world. This famous building was erected at the common charge of all the Asiatic states, and CRESIPHON was the chief architect. Pliny says that 220, but others assert that 400 years were employed in completing it. The riches which were in the temple were immense, and the goddess to whom it was dedicated was worshipped with the most awful solemnity. This stupendous structure was consumed by conflagration the

* Ancient Hist. vol. ii.

night of Alexander's nativity, by an obscure individual named ERATOSTRATUS, who confessed on the rack, that the sole motive which had prompted him to destroy so magnificent an edifice, was the desire of transmitting his name to future ages. In the close of a tract, entitled, "Observations on Pliny's account of the temple of Diana at Ephesus," published in the 11th volume of the *Archæologia*, this temple is compared with the cathedral of St. Paul, at London, which is confessed to be inferior: St. Peter's at Rome is allowed to be the only modern building which may claim a pre-eminence.

Eratosttratus set fire to the temple of Diana 356 years B. C. How long did the conflagration of this temple precede the current year 1810? *Ans.* 2166 years.

N. B. The wonders of the world, popularly so called, were, the Egyptian pyramids; the mausoleum* erected by Artemisia for her husband Mausolus, king of Caria, a district of Asia Minor, of which Halicarnassus was the capital; the temple of Diana at Ephesus; the colossus at Rhodes; the walls and hanging gardens of Babylon; the statue of Jupiter Olympus, by Phidias, at Elis, in the Peloponnesus; and the pharos of Ptolemy Philadelphus, on the small island of Pharos † in the bay of Alexandria. Instead of two of these, some reckon the palace of Cyrus, and the labyrinth of Crete.

No. 15. SIEGE OF SAGUNTUM.—The unfortunate Saguntum was situated on the spot where Morviedro in Valencia, Spain, now stands. This brave city is famous in history for the dreadful siege that it sustained 219 years B. C.; when the heroic citizens, after exerting incredible acts of valour, chose to be buried in the ruins of their city rather than surrender to HANNIBAL, the

* Hence all other magnificent sepulchres and tombs have received the same name.

† The Pharos was 180 cubits or 360 feet in height. It was built for the direction of the shipping to Alexandria, which is on a flat without any hill or rising ground to point out a course for the vessels. This appellation has been since occasionally given to several other edifices, which have been constructed to direct the course of sailors, either with lights or by signals.

famous Carthaginian general. Such instances of patriotism will be the subject of praise till time shall be no more.

Their vast applause shall reach the starry frame,
No years, no ages, shall obscure their fame,
And earth's last end shall hear their darling name.

VIDA.

How long has that tragical event preceded the present year 1810? *Ans.* 2029 years.

No. 16. SIEGE OF NUMANTIA.—Numantia was situated near Soria in Old Castile, Spain, and is celebrated for the long war which it maintained against the Romans. Scipio Africanus besieged this famous city 133 years B. C.; when the magnanimous inhabitants, after a long conflict against the extremity of famine and the despair of succour, signalized their love of LIBERTY by setting fire to their houses, and perishing in the flames:

“ A patriot-people, who death's terrors scorn'd :
“ The willing victims to a virtuous name,
“ All perish greatly, not to live with shame.
“ Well is their famine paid, and well their flame,
“ Which blazes still the distant theme of fame.”

How long has that heroic event preceded the current year 1810? *Ans.* 1943 years.

No. 17. BATTLE OF MARATHON.—Marathon was a village of Attica, about ten miles from Athens. In the adjacent plains the Athenians, with only 10,000 men*, commanded by the heroic MILTIADES, defeated Datis at the head of 100,000 Persian infantry, and 10,000

* This is the usual number assigned the Athenians; but Mr. Mitford, in his History of Greece, supposes it probable, that the Athenian army amounted to 20,000 free men, and an equal number of armed slaves.

Some authors also state the Persian army at 300,000; others 600,000, and raise their loss in the expedition, and in the battle, to 200,000 men.

horse.

horse. Five Athenian generals, and about 200 citizens, perished in the engagement. The Persians lost 6000 of their bravest troops.

The battle of Marathon has often deservedly filled the page of the historian. Never had so small a body of forces overcome so great an host. Their splendid achievements and extraordinary success, inspired the Greeks with an enthusiasm of valour, and are considered by Plato as the source and original cause of their future conquests and victories. The terror of the Persian power, hitherto so formidable, was dissipated. The Greeks were taught, from success, to know their own strength, and to tremble no more at the name of an enemy whom they had conquered. On all following occasions of importance, the orators recalled the field of MARATHON to the remembrance of their countrymen, and held up MILTIADES and his victorious troops to view, in order to inspire them with a passion for glory, and the emulation of their ancestors.

The battle of Marathon was fought 490 years B. C. How long is that ago this present year 1810? *Ans.* 2300 years.

No. 18. BATTLE OF LEUCTRA.—Leuctra was a village of Bœotia *, a country of Greece, now forming a part of Livadia, in European Turkey. Here the brave

* Bœotia was stigmatized for its foggy atmosphere and the dulness of its inhabitants: there were, however, many illustrious exceptions to their general character; for Democritus, Hesiod, Pindar, Epaminondas, and Plutarch, were all Bœotians.

Hence, all the virtues of exalted mind,
Virtues that bless and dignify mankind,
These sons of wisdom prove, may live and die
The damps inhaling of a hazy sky.

JUVENAL, by Mr. WAKEFIELD.

The beautiful and accomplished CORINNA was also a Bœotian, having been born at TANAGRA, a famous town in that district. She obtained five times a poetical prize, in which Pindar was one of her competitors; but it is supposed that her personal charms greatly contributed to the defeat of her rivals. See Exer. on the Globes, art. Lyre, and Tanagra.

EPAMINONDA

EPAMINONDAS, the Theban general, in conjunction with his illustrious friend PELOPIDAS, obtained a famous victory over the superior force of Cleombrotus, king of Sparta, who was slain in the engagement, together with 4000 of his subjects and allies; while the loss on the part of the Thebans was only 300 men. Never had the Spartans received such a blow. The defeat was disgrace; and the loss of this battle was the loss of all they held dear, of a character for pre-eminent bravery, which they had acquired, and hitherto supported.

From this period the Spartans lost the dominion of Greece, which they had enjoyed for nearly 500 years. The battle of Leuctra was fought 371 years B. C. How many years have intervened between that period and the present year 1810? *Ans.* 2181 years.

No. 19. BATTLE OF MANTINEA.—“ Fair Mantinea’s ever-pleasing site” was in Arcadia, Peloponnesus, now the Morea, a peninsula of European Turkey. This place is rendered memorable by the death of the

Theban sage
EPAMINONDAS, first and best of men!

who was slain in an engagement with the combined forces of several Grecian States.

The last moments of the Theban general did not obscure the splendor of a life, which had been spent in the acquisition of knowledge, in acts of beneficence, and in the aggrandizement of his country. Amid the agonies of dissolution, his only solicitude was for his own military glory, and the prosperity of Thebes. “ Is my shield safe? Are the Thebans victorious?” were questions that he repeated with the utmost anxiety. Viewing his shield, which was brought to him, and being informed that the Spartans were defeated, a gleam of joy prevailed for a moment over the languor of death: “ Mine,” said he, “ is a glorious departure; I die in the arms of victory; tell me not that I am childless*, for LEUCTRA and MANTINEA

* In the midst of general affliction, one of his most intimate friends exclaimed, “ Oh! Epaminondas, you are dying, and we shall

MANTINEA are immortal children." He then commanded the javelin to be extracted, which he knew was to occasion his immediate death, and expired in the arms, and amid the groans, of his surrounding friends. His body was deposited in the field of battle, where a monument to his memory remained to the time of Pausanias.*

With Epaminondas expired the splendor of the Theban name. For to him, and to his friend Pelopidas †, the famous "Theban Pair," that obscure republic owed the pre-eminence it had acquired in Greece.

The battle of Mantinea was fought about 363 years B. C. How long is that ago this present year 1810?
Ans. 2173 years.

No. 20. BATTLE OF THERMOPYLÆ.—Thermopylæ was a narrow defile leading from Thessaly into Locris and Phocis, districts of Greece, and now part of European Turkey. It had a large ridge of high mountains on the West, and the Euripus, a strait which separates the island of Negropont from the continent, on the East, with deep and dangerous marshes, being in the most confined part only 25 feet in breadth. This pass obtained its name from the adjacent hot springs, and was considered

shall lose you entirely, without a hope remaining of seeing you revive in your offspring; you leave us no children behind you."—"You are mistaken," replied Epaminondas coolly, "I shall leave behind me two immortal daughters; the victory of *Leuctra* and that of *Mantinea*."

Folard's Life of Epam. by Parry.

When that eminent artist Michael Angelo was asked why he did not marry he answered, that "Painting was his wife, and his works were his children." See Chron. and Biog. Exr. 4th edit.

* See Dr. Rutherford's Anc. Hist. vol. ii, p. 525.

† Pelopidas was a famous general of Thebes. He shared with Epaminondas the glory of the victory at *Leuctra*. He was re-elected thirteen times successively to fill the honourable office of governor of *Bœotia*. Pelopidas was killed in a battle with the troops of Alexander, tyrant of *Phere* (a town of *Thessaly*), after he had gained the victory; 364 years B. C.

as the gate or opening into Greece*. Here it was that a small band of heroic Spartans, commanded by their illustrious king LEONIDAS, gloriously repulsed the invading army of Xerxes, king of Persia, consisting of more than 3,000,000 of men. While the *Great King*, as this infamous marauder was called, anxious and perplexed at the ineffectual endeavours of his myriads of slaves to force their way through the defile, knew not what resolution to adopt, a detestable miscreant named *Epiates*, an inhabitant of the country, induced by the hopes of reward, brought information of another pass over the mountains of Oeta. The Spartans being by this treacherous manœuvre attacked by a detachment of 20,000 Persians in the rear, while the main body assailed them in the front, it was no longer possible to resist the weapons of surrounding multitudes; and this undaunted band perished to the last man, overwhelmed rather than conquered by the Persian arms.

Twenty thousand Persians fell in this engagement, and among the rest the two brothers of the "*Great King*," who was thus taught that with all the millions of the East, it might be possible to exterminate the Greeks, but it was impossible to subdue them.

To the memory of those brave defenders of Greece, a magnificent monument was afterwards erected on the spot where they fell, bearing two inscriptions; one in honour of all those who had fallen on that occasion: the other, to the memory of LEONIDAS and his 300 Spartans:

His fair renown shall never fade away,
 Nor shall the mention of his name decay,
 Who gloric falls beneath the conqueror's hand,
 For his dear children, and his native land †;
 Though to the dust his mortal part we give,
 His fame in triumph o'er the grave shall live.

TYRTÆUS.

The

* Θερμος, hot, or scalding; and πυλαι, straits, or narrow passages between hills.

† The expression *native country*, it has been well remarked, presents itself to the mind, decorated with many ideas from the wardrobe

The fleet which accompanied the immense land force above mentioned is said to have consisted of 2000 sail. The only successful operation of this unwieldy armament was the capture and conflagration of the city of ATHENS, which its inhabitants had previously deserted. Disgrace and disaster attended every other moment of its short existence. THEMISTOCLES,* with no more than 300 sail, dispersed, and, in a great measure, destroyed the fleet near the island of SALAMIN, now called COLURI, near Athens. Xerxes shortly after escaped from Greece,

robe of imagination. To tell men they have disgraced their country, is the most bitter of all reproaches; to say they have done it honour, is the most soothing of all praise. The simple sentence, *fighting for our country*, contains all the magic of eloquence: conjuring up the ideas of protecting our property, our home, the abodes of our forefathers, the beloved scenes of our earliest pleasures and first affections; it implies defending from outrage our constitution, our religion, all that is valuable and endearing, our friends, parents, wives, and children. The love of our country is mentioned with the love of fame by the Roman poet, as the feeling of a noble mind:

Vincet amor patriæ, laudumque immensa cupido.

— The fair hopes of fame the patriot move
To sink the private in the public love.

PITT.

It not only excites to virtuous exertions during life, but affords a soothing recollection in death:

— dulces moriens reminiscitur Argos.

And, while he cast to heav'n his swimming eyes,
Turns his last thoughts on Argos, as he dies.

PITT.

The dying patriot here alluded to was Anthores, an Argive, who fell in battle, in Italy, at a great distance from his native land, which was a district in the Peloponnesus, now the Morea, in Turkey, in Europe.

“ Anthores had from Argos † travell'd far,
“ Alcides' friend, and brother of the war.”

* This great man died at Magnesia, on the river Meander, a few miles south of Ephesus.

† See Pyrrhus, Index.

leaving the remains of his deserted army to encounter future calamities in the best manner it could *. On his arrival at the place where a bridge of boats had been constructed across the Hellespont, now called the Dardanelles, over which his vast mass of slaves had passed from Asia into Europe, burning at the same time all manner of perfumes, and strewing the way with myrtles, he found it demolished by a tempest, and the Persian monarch was constrained to commit his august person to the conveyance of a *cock-boat*. This sudden and signal reverse of fortune, while it conveys a forcible image of the mutability of sublunary things, and the instability of human greatness, affords a memorable example of the heroic ardour with which LIBERTY has been defended by its votaries; as well as the disappointment and dishonour which await the most formidable preparations to extend dominion over FREE MEN, whose necks, venality, dissipation, and luxury, have not previously *polished* for the reception of the yoke of slavery.

Unless corruption first deject the pride
 And guardian vigour of the FREE-BORN soul,
 All crude attempts of violence are vain:
 For firm withstn, and while at heart untouch'd,
 Ne'er yet by force was freedom overcome.
 But soon as independence stoops the head,
 To vice enslav'd, and vice-created wants,
 Then to some foul corrupting hand, whose waste
 These height'ned wants with fatal bounty feeds,
 From man to man the slack'ning ruin runs,
 Till the whole state, unnerv'd, in slav'ry sinks.

THOMSON.

The invasion of Greece by Xerxes took place about 481 years B. C. How long is that ago this current year 1810? *Ans.* 2291 years.

* Three hundred thousand men were left in Greece under the command of Mardonius, whose operations were rendered useless by the courage and vigilance of the Greeks; and, in a battle at PLATEA, a city of Bœotia, he was defeated and slain.

NO. 21. BATTLE OF CHERONEA. — Chæronea, the birth-place of Plutarch, was a city of Bœotia. It was situated on the celebrated river Cephissus, of which the Graces* were particularly fond, whence they are sometimes called the Goddesses of Cephissus.

Chæronea is famous for the victory obtained there by PHILIP, king of Macedon†, and father of Alexander the Great, over the confederated army of the Thebans and Athenians. ALEXANDER, who was then but sixteen or seventeen years of age, commanded the left wing of the Macedonian forces. DEMOSTHENES, one of the first orators of antiquity, who it appears was a greater statesman than a warrior, and more capable of giving sage counsels in his harangues, than of supporting them by an intrepid courage, was in the Athenian army, and saved himself by flight. ISOCRATES, one of the most celebrated rhetoricians of that age, not being able to survive the ignominy which overwhelmed his country by the loss of this battle, embraced death by a voluntary abstinence‡.

Philip, a sagacious and intriguing monarch, in the first years of his reign repulsed, divided, and disarmed his enemies; in the succeeding ones, he subjected, by artifice or force, the most powerful states of Greece, and made himself her arbiter; and by gaining the victory of Chæronea he may be said to have finally

* The Graces, in the Heathen theology, were fabulous deities, three in number, who attended on Venus. Their names are Aglaia, Thalia, and Euphrosyne. They are represented as young, beautiful, and modest virgins; all holding each other by the hand. See Exercises on the Globes, 4th edit.

† The Macedonian empire under Philip and Alexander became one of the four great monarchies. The other three celebrated ancient monarchies were the Assyrian, the Persian, and the Roman.

‡ A statue was erected at Athens to this distinguished orator, who according to Pausanias, left behind him three things worthy of remembrance; namely, his *perseverance*; for he continued to have scholars at the age of 98: his *prudence*; for he never interfered in politics nor in public concerns: and his *love of liberty*; by refusing all sustenance after the loss of this battle. *Taylor's Pausanias*.

Pausanias was a celebrated Greek writer, who flourished about A. D. 170.

enslaved her. Thus Macedon (chiefly through dissensions in the other Grecian states) with only 30,000 soldiers gained a point, which Persia, with millions of men, had attempted unsuccessfully at Platea, at Salamis, and at Marathon.

Philip's success at Chæronæa obtained him the great object of his ambition, the nomination of Generalissimo to the Greeks against the Persians; but, in the midst of warlike preparation for the invasion of Persia, he was stabbed by Pausanias, a young Macedonian nobleman, at the instigation, as some have supposed, of Olympias, the mother of Alexander, whom Philip had just repudiated.

The battle of Chæronæa was fought 338 years B. C. How long is that ago this present year 1810? *Ans.* 2148 years.

No. 22. BATTLE OF THE GRANICUS.—The Granicus was one of the principal rivers of Mysia Minor, a district of Asia Minor, bordering on the Propontis or sea of Marmora. It had its rise in the famous Mount Ida, whose waters became the source of many other celebrated rivers, particularly the Simois and Scamander, so often mentioned by Homer. The Granicus discharged itself into the Propontis between Cyzicus and Lampfacus, somewhat north of the Hellespont.

Alexander, son of Philip, and king of Macedonia, a portion of the present Turkey in Europe, crossed the Granicus at the head of only 30,000 soldiers, in the face of the Persian army, 600,000 strong; and, on his gaining the shore, the latter were immediately routed with great slaughter. Historians remark, that the river was deep, and its banks craggy and steep; so that the forces of Darius had a considerable advantage, had they known how to have used it.

Alexander himself commanded the right wing of his army, and PARMENIO, his confidential general, the left. It was in this engagement that the gallant CLITUS saved the life of Alexander, who, in one of his fits of inebriation, afterwards slew him with a javelin; and Parmenio and his son were also put to death by
 “ Macedonia's

"Macedonia's madman," upon a slight accusation of treason against his person.

The battle of the Granicus was fought 334 years B. C. How many years have succeeded that event this present year 1810? *Ans.* 2144 years.

N. B. The succeeding year, Alexander defeated Darius at Issus, situated in Cilicia, on the spot were Ajazzo now stands, on the coast of the Mediterranean sea, north of Antioch, and west of Aleppo. In this important battle 110,000 Persians were slain, and the tent of Darius taken, in which were his mother, wife, two daughters, and young son.

The famous battle of Arbela, a town placed by some geographers in Persia, by others with more probability in Assyria, and supposed to have been situated about 140 miles N. of Bagdat, or 60 S. E. of Mousul, was fought between Alexander and Darius some time after the one just mentioned; and determined the fate of the Persian empire, which was then extinguished, just 228 years after it had been first founded by Cyrus the Great.

Darius, after this total defeat, fled towards Media, a country south of the Caspian sea; and Bessus, governor of Bactriana (part of the present Usbec Tartary), a traitor whom the fallen monarch had loaded with favours, took away his life, in hopes of succeeding him on the throne.

The three last-mentioned battles, together with that which the same monarch had with the gallant Porus on the banks of the river Hydaspes*, a branch of the present Indus, in Asia, are denominated the *four* battles of Alexander, and have repeatedly afforded subjects to the painter and the engraver.

No. 23. THE DESTRUCTION OF CARTHAGE.—The year 146 B. C. is memorable for the overthrow of Carthage, which was situated about 30 miles N. W. of Tunis, in Africa. This celebrated city for a long time disputed the empire of the world with Rome; but was

* Its modern name is Chelum. See Bourn's Gazetteer.

at length destroyed by Scipio, the second Africanus, in the third Punic war. The conduct of the wife of Asdrubal, the Carthaginian commander, on this occasion is worthy of narration. After upbraiding the perfidious wretch, her husband, with delivering himself up to the Romans, she seized her children, slew them, cast them into the flames of Esculapius's temple, which the Roman deserters, despairing of pardon, had set on fire, and immediately rushed into the same conflagration, where she perished. How many years did that city's catastrophe precede the present year 1810? *Ans.* 1956.

N. B. The wars between the Romans and Carthaginians were called *Punic*; a word said by some to be derived from *pæni*, an antiquated Latin term signifying false, faithless persons; the latter people being, at all times, noted for breach of faith. Be this etymology, however, well or ill founded, *Punica fides*, or Carthaginian integrity, became, after the middle age of the Roman state, a proverbial irony to denote fraud and perfidy.

Thou art able to instruct grey hairs,
And teach the wily African deceit.

ADDISON'S CATO.

Long has your Carthage been renown'd for fraud,
The specious seeming, and the deep-hid guile;
Sincerity is not the growth of Afric.

HAVARD'S REGULUS.

The fact, however, is, that *Pæni* and *Punicus* are corruptions of Phœni, Phenicians, of which people Carthage was originally a colony. Hence the word was applied to the Carthaginians long before the Romans accused them of treachery.

No. 24. DESTRUCTION OF XANTHUS.—Xanthus was the metropolis of Lycia, a district of Asia Minor, somewhat N. E. of the island of Rhodes. The inhabitants of this once famous city have acquired great celebrity in ancient history, like those of SAGUNTUM and NUMANTIA, spoken of in the 15th and 16th questions, and on a similar account; a renown which time shall

shall not obscure, while the love of FREEDOM is esteemed an elevated and virtuous affection.

“ In liberty’s defence, fight constant, single—
“ Die with her—’tis no life if you survive her.”

These brave people, when the Romans became masters of their city, 42 years B. C. being determined not to survive the loss of liberty, destroyed their wives and children, set their city on fire, and perished in the conflagration, as their ancestors had before done, rather than submit to Harpagus, Cyrus’s lieutenant, or to Alexander, the conqueror of Asia. How long did the destruction of Xanthus precede the year 1810? *Ans.* 1852 years.

No. 25. BATTLE OF PHARSALIA.—Pharsalia was a town of Thessaly, now Janna, which gives name to a province of European Turkey; and in the neighbourhood is a large plain, long famous for the great and decisive battle between POMPEY and CÆSAR. The issue proved fatal to the former commander, who, after a total defeat, fled to Egypt, where he was treacherously slain, by order of Ptolemy the younger, then a minor*, and his body thrown naked on the strand, exposed to the view of all whose curiosity led them that way, till it was burnt by his faithful freedman Philip, and an old Roman soldier who had served under Pompey in his youth.

A mercenary wretch, named Theodotus, one of the counsellors who was consulted how this brave commander should be treated, observed, “ That dead dogs bite not; ” a vulgar and malicious joke, which probably enabled Gray to remark to Queen Elizabeth, concerning the unfortunate Mary, queen of Scots, “ that dead women bite not†.” Pothinus, tutor to Ptolemy, also advised the monarch to murder Pompey. He stirred up commotions in Alexandria, when Cæsar came there; upon which the conqueror ordered him to be put to death ‡.

* See Rollin, vol. vii. p. 250, &c. and also Plutarch’s Life of Pompey.

† See Tindal’s Rap. vol. vii. p. 491.

‡ See Pothinus, Lempriere’s Dictionary.

A poem of LUCAN, in which he gives an account of the civil wars of Cæsar and Pompey, bears the name of PHARSALIA.

“ His numbers shall to latest times convey
“ The tyrant Cæsar, and Pharsalia’s day.”

Dr. Johnson terms Rowe’s translation of *Lucan’s Pharsalia* one of the greatest productions of English poetry; and asserts, that it will be more esteemed as it is more read.

The principal characters are those of Pompey, Cæsar, Cato, and Brutus. Lucan was put to death for being concerned in a conspiracy against the “ imperial monster” NERO.

The engagement at Pharsalia took place 48 years B. C. How long is that ago this current year 1810? *Ans.* 1858.

N. B. After this battle CATO retired to Utica, near Tunis, in Africa; where, not choosing to survive the liberties of his country, he killed himself. See *Chronological and Biographical Exercises*, 4th edition,

No. 26. DEATH OF CÆSAR.—Julius Cæsar, the famous Roman general and historian, invaded this country 54 years B. C. Having at length subdued Pompey, the great rival of his growing power, and still pursuing his favourite maxim, “ That he would rather be the first man in a village, than the second in Rome,” he aimed at the imperial dignity; in consequence of which, the friends of the civil liberty of the republic assassinated him in the senate-house. He received twenty-three wounds from his murderers.

In the Spada palace at Rome is kept the very statue at the feet of which Cæsar fell; and those who show it never fail to relate his care to die gracefully; which was likewise the last desire that occupied the mind of Lucretia*, and of the renowned Pompey, when he was basely murdered.

The

* Lucretia was the wife of Collatinus, and the cause of the revolution of Rome from a monarchy to a republic. This virtuous lady being

The "matchless BRUTUS—the last of Romans," as Thomson styles him, was one of the principal conspirators. His character, uniting severity of principle with gentleness and humanity of disposition, added to firmness in virtuous action, is finely drawn by Shakspeare:

This was the noblest Roman of them all ;
 All the conspirators, save only he,
 Did what they did in envy of great Cæsar ;
 He only, in a gen'rous, honest thought,
 And common good to all, made one of them.
 His life was gentle ; and the elements
 So mix'd in him, that nature might stand up,
 And say to all mankind, THIS WAS A MAN !

Cæsar is said to have fought 56 pitched battles, in which 1,920,000 human beings were butchered. The assassination of this "best of cut-throats" took place 42 years B. C. How long is that ago this present year 1810? *Ans.* 1852.

N. B. The defeat and death of Brutus and Cassius at PHILIPPI, in Macedonia*, where these brave and strenuous

being violated by Sextus the son of Tarquin, king of Rome, stabbed herself 509 years B. C. The bloody poniard, with her dead body, exposed to the senate, were the signal for Roman liberty ; the expulsion of the Tarquins, and the abolition of the regal dignity, being instantly resolved on, and carried into execution.

* Brutus passing through Athens, in his way to Macedonia, took several young gentlemen from thence to the army with him : among these was HORACE, whom he made a tribune : an honour, as it soon appeared, that he could not pretend to for his valour ; for at the battle of Philippi, he left the field and fled, having first shamefully thrown away his shield, which was reckoned a most dishonourable action : much more so than to throw away a sword or helmet ; because, says Plutarch, those weapons are only beneficial to the person himself ; whereas the former is of general service to the rest of the army.

Horace mentions his escape from this battle among three instances of divine protection ; which as a poet he attributes to the muses, who had marked him out for their own, whilst he was yet a child :

nuous republicans engaged the Cæsarean party, commanded by Octavius Cæsar and Mark Anthony, put a final period to the popular government at Rome, soon after the death of Julius Cæsar.

The wife of Brutus was PORTIA, "a woman well reputed, CATO's daughter." She had formerly wounded herself severely, to extort from her husband the cause of his apparent uneasiness; and now, scorning to survive Brutus, and perceiving that every weapon of destruction was removed from her reach, she embraced death by swallowing burning coals. Thus has Portia left behind her an everlasting argument, how far a generous treatment can make the tender sex go, even beyond the resolution of man, when we allow that they are by nature formed to pity, love, and *fear*; and *we* with an impulse to ambition, danger, and adventure.

History has recorded several similar instances of conjugal affection and fortitude in the fair sex. We shall content ourselves with selecting the two following.

The affectionate PANTHEA* plunged a poniard into her heart, and expired upon the dead body of her husband Abradates, who had been slain in battle. They were both buried upon the spot in one common grave, and a monument was erected for them by Cyrus, which was standing in the time of Xenophon.

The muses† did their poet shield
At fam'd Philippi's bloody field;
And from the falling tree and stormy main,
To grace their sacred spring, preserv'd their grateful-swain.

OLDSWORTH.

The professed courage of some other poets has proved as incapable, on trial, of standing the test of danger, as that of Horace. Archilocus escaped precipitately from the field of battle, and threw away his shield, a circumstance which he shamelessly avowed. The same misfortune is said to have happened to Alcæus, in a battle between the Athenians and Mitylenæans, and his arms were suspended as a trophy.

* Three domestics belonging to Panthea sacrificed themselves to the manes of their deceased benefactor, when she stabbed herself.

† See Exercises on the Globes, 4th edit.

When

When Pætus was condemned to death for having been concerned in a conspiracy against Claudius, his consort ARRIA, having in vain solicited his life, persuaded him to destroy himself, rather than suffer the ignominy of falling by the hand of the executioner; and in order to encourage him to an act, to which, it seems, he was not much inclined, she set him the example. Drawing a dagger she plunged it in her breast, and then presented it to her husband with that memorable, I had almost said, says Pliny, that divine expression, *Pætus, it is not painful.*

Martial has celebrated this heroic action in the following famous epigram:

- “ When from her breast chaste Arria snatch'd the sword,
 “ And gave the deathful weapon to her lord;
 “ My wound, she said, believe me, does not smart;
 “ 'Tis thine aloge, my Pætus, pains my heart*.”

No. 27. BATTLE OF ACTIUM.—Actium was a small city on the Ambracian gulf, north of the island of Cephalonia, Turkey in Europe. It is rendered memorable by the decisive victory which the navy of Octavius, afterwards Augustus Cæsar, obtained over the conjoined fleets of Anthony and Cleopatra. This event happened 31 years B. C. How many years have intervened between that period and the present year 1810?
Ans. 1841.

N. B. Octavius was nephew to Julius Cæsar, mentioned in the preceding question. Mark Anthony was another celebrated Roman general and triumvir; that is, one of *three* persons who govern absolutely, and with equal authority, in a state.

There were two famous triumvirates at Rome; POMPEY, CÆSAR, and CRASSUS, established the first; and AUGUSTUS, ANTHONY, and LEPIDUS, the second. This latter triumvirate gave the last blow to the already expiring liberty of the republic. Augustus having vanquished Lepidus and Anthony, the triumvirate sunk into a monarchy. In the reign of this Augustus JESUS CHRIST was born.

* See Eleonor and Alceste. Exer. on the Globes, 4th edit.

CLEOPATRA was the celebrated queen of Egypt whose extraordinary beauty subdued Julius Cæsar and Mark Anthony; the latter of whom, it is generally thought, lost the empire of Rome by his attachment to this fascinating but vicious woman.

When Octavius took Alexandria, in Egypt, the year after the battle of Actium, Anthony and Cleopatra * put an end to their own lives, and Egypt became a Roman province.

No. 28. A person owes to A £100, to B £240 10s. to C £784 12s. 6d. to D £500, to E £25 4s. 7d. and to F £19 19s. 6d. What do his debts amount to? *Ans.* £1670 6s. 7d.

No. 29. A man borrowed a certain sum of money, and paid in part £648 18s. 4d. the sum left unpaid was £769 17s. 8d. What was the original debt? *Ans.* £1418 16s.

No. 30. Laid out in beef 14s. 10d. $\frac{1}{2}$. in mutton 7s. 4d. $\frac{1}{4}$. in veal 8s. 10d. $\frac{1}{4}$. in lamb 5s. 4d. $\frac{1}{2}$. in vegetables 1s. 9d. $\frac{1}{4}$. in butter 1s. 4d. $\frac{1}{2}$. What was expended in all? *Ans.* £1 19s. 8d. $\frac{1}{4}$.

No. 31. Paid a baker's bill of £2 12s. 6d. a butcher's of £8 7s. 6d. a cheesemonger's of 18s. 9d. a milliner's of £5 18s. a mantua-maker's of £2 14s. 8d. and a hair-dresser's of £5 10s. What was the amount of the several sums? *Ans.* £26 1s. 5d.

No. 32. Expended in gloves 14s. 8d. in gauze £1 3s. 7d. in ribands 2s. 6d. in stockings 16s. in lace £4 10s. in cambric £2 12s. 6d. in muslin £3 4s. and in silk £5 12s. What was the whole sum spent? *Ans.* £18 15s. 3d.

No. 33. Bought 6 yards of mode at 6s. 4d. per yard; 6 yards of lining at 3s. 2d. per yard; 9 yards of lace at 4s. 10d. per yard; and paid for making the cloak 2s. 6d. What is the amount of the whole? *Ans.* £5 3s.

No. 34. St. Paul's cathedral cost £800,000; the Royal-Exchange £80,000; the Mansion-House £40,000;

* Two of Cleopatra's female servants slew themselves, in consequence of the death of their beloved mistress.

Black-Friars-Bridge £152,840; Westminster-Bridge £389,000; and the Monument £13,000. What is the amount of these sums? *Ans.* £1,474,840.

No. 35. MONEY AND COIN.—Coin differs from money as the species from the genus. Money is any matter, whether metal, wood, leather, glass, horn, paper, fruits, shells, or kernels, which have currency as a medium in commerce. Coin is a particular species, always made of metal, and struck according to a certain process called coining.

The precise epocha of the invention of money is unknown; but, from the necessity and obviousness of the thing, it is supposed to have taken place at a very early period of the world. Coins are evidently not of equal antiquity. In effect, the very commodities themselves were the first monies, *i. e.* were current for one another by way of exchange. That purchases were thus made in the time of the Trojan war, we learn from Homer:

Each, in exchange, proportion'd treasure gave;
Some brass, or iron, some an ox, or slave.
For Diomed's brass arms, of mean device,
For which nine oxen paid (a vulgar price)
He gave his own, of gold divinely wrought,
A hundred beeves the shining purchase bought.

POPE'S HOMER.

Hence it may be inferred, that at the period alluded to, namely, about 1184 years B. C. the trade of countries was carried on by exchange in gross; brass, oxen, slaves, &c.

Coin is a piece of metal converted into money by the impression of certain marks or figures thereon.

Money was first made of gold and silver at Argos, in Greece, 89 B. C. The first coining of silver took place at Rome 269, and of gold 206 years B. C.

Many silver coins of the ancient Anglo-Saxon kings have been found in England; and regular series of English coins have been collected even from the reign of Egbert to the present time. Shillings were first coined in England by Henry VII. in 1503. Fleetwood, in his

Chronicon

Chronicon Preciosum, states the first coining of silver crowns and half crowns to have been in the reign of Edward VI. There were English crowns long before that period, but they were always of gold. Some pieces of gold were coined by Henry III. about the year 1257; but it is from the reign of Edward III. that the regular series of gold coinage commences. In 1344, that prince first struck *florins*, supposed to be so called from the best gold then coined at Florence, a state where the fine arts then began faintly to dawn. The floren was then worth six shillings; but it is now intrinsically worth nineteen, from the increased value of gold, and diminution of the value of silver coins. Gold coins, under various denominations, were afterwards struck by our different English princes. - Charles II. issued half guineas, double guineas, and five guinea pieces. The first money coined in ancient Britain seems to have been copper; but, after the arrival of the Saxons in England, scarcely any copper money appeared here for many centuries; nor was there a general currency of English authorized copper money till the year 1672. Between the Restoration in 1660, and this last period, cities, towns, and even individuals, were allowed to coin copper money for the convenience of trade. Copper money was first used in Scotland and Ireland A. D. 1340. A considerable coinage of guineas took place in the reign of Charles II. and James II.

Before the Revolution, English money was in a most wretched condition, having been filed and clipped by natives as well as foreigners, infomuch that it was scarcely left of half the value: the retrieving of this wretched state of our coin is justly regarded as one of the glories of king William's reign.

The British coinage is now wholly performed in the Tower of London, where there is a corporation for it, under the title of the *Mint*.

Political writers consider the increase of sums coined, as a certain proof of the increase of our national commerce. By George I. £8,725,921 sterling were coined. In the long reign of George II. £11,966,576; and in the first 24 years of his present majesty's reign, the sums coined amounted to £33,089,274 sterling: What is the amount of these sums? *Ans.* £53,781,771.

No. 36. Pay a baker's bill of two pounds, a grocer's of three pounds, a milliner's of five pounds, a linen-draper's of sixteen pounds, and a cheesemonger's of seven pounds, and find the amount of the whole.

No. 37. Alexander Cruden, a native of Aberdeen, and author of an admirable "Concordance," *i. e.* an index to find any passage in the Scriptures, was born in 1701, and lived to the age of sixty-nine: What was the year of his demise?

No. 38. Virgil, the celebrated Latin poet, was born near Mantua, in Italy, seventy years before the nativity of our Saviour: How many years have elapsed since that event to the present year 1810?

No. 39. Charles II. was defeated at the battle of Worcester, in 1651, and was in exile nearly nine years: What was the year of his Restoration?

No. 40. Add the grains in a pennyweight, the pennyweights in an ounce, and the ounces in a pound Troy together.

No. 41. Add the drams in an ounce, the ounces in a pound, the pounds in a quarter of an hundred, the quarters in an hundred weight, and the hundred weights in a ton together.

No. 42. Add the grains in a scruple, the scruples in a dram, the drams in an ounce, and the ounces in a pound (Apothecaries weight) together.

No. 43. Add the component parts of Cloth-Measure Table together.

No. 44. Add the component parts of Land-Measure Table together.

No. 45. Add the component parts of Long-Measure Table together.

No. 46. Add the component parts of Cubic or Solid Measure Table together.

No. 47. Add the component parts of Square-Measure Table together.

No. 48. Add the component parts of Wool-Weight Table together.

No. 49. Add the component parts of Wine Measure Table together.

No. 50. Add the component parts of Ale and Beer Measure Table together.

No. 51.

No. 51. Add the component parts of Dry-Measure Table together.

No. 52. Add the component parts of the Table of Time together.

No. 53. Add the component parts of the Table of Motion together.

No. 54. Expended in meat, three shillings and four-pence; in eggs, one shilling and a halfpenny; in vegetables, seven-pence farthing; in flour, fifteen-pence three farthings; and in fish, half a crown: What was the amount of the whole?

No. 55. Expended in gloves, two shillings and four-pence; in needles, sixpence three farthings; in pins, eleven-pence halfpenny; in thread, ten-pence farthing; in tape, four-pence three farthings; and in ribands, fifteen-pence: What is the amount of the whole?

No. 56. What do three days' work come to, at eighteen-pence halfpenny a day?

No. 57. What do four weeks' wages amount to, at three and eight pence a week?

No. 58. What is the value of five silver watches, at four guineas and a half each?

No. 59. Find the worth of six pieces of cloth, at five guineas and a half each.

No. 60. What do seven weeks' wages come to, at five shillings and eleven-pence halfpenny a week?

No. 61. What does a stone of butcher's meat, *i. e.* eight pounds, come to, at eleven-pence farthing a pound?

No. 62. Find the value of a leg of mutton, weighing nine pounds, at eight-pence three farthings a pound.

No. 63. What does a leg of veal, weighing ten pounds, come to, at eleven-pence halfpenny a pound?

No. 64. Find the value of twelve pounds of candles, at eight-pence farthing a pound.

No. 65. Expended in bombazine, six shillings and three farthings; in damask linen, three guineas and a half; in dimity, half a guinea; in stockings, fourteen shillings and eleven-pence; and in handkerchiefs, twenty-four shillings and four-pence: What was the total sum laid out?

No. 66. Paid for lawn, two guineas and a seven-shilling

shilling piece; for Holland, three crowns; for muslin, seven half crowns; for cambric, nineteen shillings and four-pence halfpenny; and for tape, eleven-pence farthing: What was the sum of the whole?

No. 67. Expended in nutmegs, eight-pence farthing; in sugar, sixteen-pence halfpenny; in tea, four shillings and a farthing; in coffee, half a crown; and in bread, two shillings and four-pence three farthings: What was the amount of the whole?

No. 68. Paid for shoes, twenty-eight shillings and four-pence; for coals, fifty-three shillings and nine-pence; for a firkin of butter, sixty-four shillings and sixpence; for a fitch of Wiltshire bacon, sixty-nine shillings and nine-pence; and for a Gloucester cheese, four seven-shilling pieces: What was the amount of the whole?

No. 69. Laid out in Durham mustard, nineteen-pence halfpenny; in Cheshire cheese, four shillings and eleven-pence; in Cambridge butter, half a crown; in Gorgona* anchovies, two shillings and eight-pence farthing; and in Lucca oil, three shillings and three farthings: What was expended in all?

No. 70. If the yearly rent of a house at Worcester be twenty-four pounds; poor's rates, three pounds ten shillings; water, twenty-four shillings; church rate, five shillings; window and house tax, six pounds, sixteen shillings, and four-pence; Easter offerings, half a guinea; watch, eighteen shillings; garden and incidental repairs, five guineas: What is the amount of the whole?

No. 71. Borrowed six guineas and a half; fifteen shillings and ninepence; six crown and five half crown pieces; three seven-shilling pieces; and six Spanish dollars, worth four shillings and sixpence each: What is the amount of the whole?

No. 72. Suppose a person should spend daily one of each of the gold coins now (1810) current, what would be the weekly amount, including Sunday?

No. 73. Find the monthly amount of the preceding sum.

No. 74. Find the yearly amount of the last sum, reckoned by calendar months.

* A small island near Leghorn, Italy.

No. 75. Treble the amount of the last sum, and find, when so increased, what it would amount to in the term of years usually included in an apprenticeship.

No. 76. Add as many guineas as there are provinces in Ireland, to as many pounds sterling as any place can possibly have degrees of North or South latitude.

No. 77. Add as many pounds sterling as any place can possibly have degrees of Eastern or Western longitude from London, to as many guineas as there were persons in Noah's ark at the deluge.

No. 78. Add as many guineas as there are circles in Germany, to as many shillings as there are cantons in Switzerland.

No. 79. To as many pounds sterling as the Israelites were years in bondage in Egypt, add nineteen pounds, nineteen shillings, and eleven-pence three farthings.

No. 80. To as many guineas as the Israelites wandered years in the desert, add as many half crowns as there are provinces in Spain.

No. 81. To as many of the dollars now in circulation (1810) as there are counties in the Highlands (or North Scotland), add as many farthings as there are counties in the Lowlands (or South Scotland).

No. 82. To as many guineas as Cæsar received wounds in his assassination at Rome, add as many seven-shilling pieces as the siege of Troy continued years.

No. 83. To as many half crowns as there were provinces in the United Provinces, or Batavian Republic, add as many two-penny pieces as there are at present United States in America.

No. 84. To as many of the smallest British coin as a lunar month, according to the usual computation, contains days, add as many sixpences as there have been sovereigns of England since the conquest, including his present Majesty, George the Third.

No. 85. To as many guineas as there are dollars in a one pound note, add as many shillings as there are years in the longest reign of any English monarch.

No. 86. To as many guineas as Our Saviour continued days on the earth, after his resurrection, add as many pence and as many farthings as the present king, George the Third, has reigned years (1810).

SUBTRACTION

S U B T R A C T I O N

TEACHES to take a less number from a greater, and shews the difference or remainder.

E X A M P L E S.

No. 87. DESTRUCTION OF JERUSALEM. — The destruction of Jerusalem by Nebuchadnezzar has been noticed in the 12th question. In the year 536 B. C. Cyrus king of Persia published the famous edict* which permitted the return of the Jews to Jerusalem. This edict is supposed to have been obtained by the earnest solicitations of Daniel, who enjoyed great credit and authority at court. Cyrus had been mentioned by Isaiah † 200 years before his birth, as the person appointed by God for the deliverer of the captive Jews, by ordering the rebuilding of their temple, and their own restoration to Jerusalem and Judea. Shortly after the emission of this edict, the Jews departed, and began to rebuild their temple and city. After having completed these important undertakings, and sustained various disasters from the Egyptians, Syrians, and Romans, Jerusalem was at length finally destroyed by the latter people under TITUS, the son of Vespasian, who not only levelled the buildings to the ground, but even entirely razed the city with the plough; so that, in conformity to our Saviour's prediction ‡, not one stone remained upon another. The numbers who perished in this siege amounted, according to Josephus the Jewish historian, to above 1,000,000, and the captives to almost 100,000. The temporal state of the Jews ended with their city; immediately after the subversion of which, the wretched sur-

* Ezra, chap. i.

† Isaiah xlv. 28. chap. xlv. 1 and 13.

‡ Matt. xxiv. 2. Luke xix. 41—44. chap. xxi. 6 and 24.

vivors were banished, sold, and dispersed into all parts of the world, where they continue to this day a "standing miracle" in favour of the truth of our holy religion. This event occurred A. D. 70; how long is that ago, this present year 1810? *Ans.* 1740 years.

N. B. TITUS, says Josephus, seeing Jerusalem lie in ruinous heaps and rubbish, and reflecting on its former beauty, riches, and glory, could not forbear weeping, and cursing the obstinacy of the seditious Jews, who had forced him, against his inclination, to destroy so magnificent a city, and such a glorious temple, as was not to be paralleled in all the world.

It has been said of Titus, that he was truly the father of his people; for though Rome suffered various calamities during his reign, yet such was his equitable and mild administration, that he constantly preserved his popularity, and continued to his death (which happened A. D. 81)

The delight of men!

Very different were his predecessors, TIBERIUS, CALIGULA, CLAUDIUS, NERO, VITELLIUS—

Imperial monsters all. A race on earth
Vindictive sent, the scourge of human-kind!

No. 88. BATTLE OF HASTINGS.—William, duke of Normandy, invaded England A. D. 1066, and defeated Harold, the reigning prince, at the battle of Hastings, in Suffex. In this famous engagement, which lasted from morning till sun-set, there fell 15,000 Normans: and the loss on the side of the vanquished was yet more considerable, besides that of the king and his two brothers. William had three horses slain under him. This victory put an end to the Saxon monarchy in England, which had continued for more than 600 years. Thus

The haughty Norman seiz'd at once an isle,
For which thro' many a century, in vain,
The Roman, Saxon, Dane, had toil'd and bled.

THOMSON.
The

The conquering despot became a most cruel tyrant to his English subjects. The nobility and gentry were despoiled of their lands and honours, which were given to the Normans; and, as Hume observes, the English name became a term of reproach.

The furious victor's partial will prevail'd.
 All prostrate lay; and, in the secret shade,
 Deep stung but fearful Indignation gnash'd
 His teeth. Of freedom, property, despoil'd,
 And of their bulwark, arms; with castles crush'd,
 With ruffians quartered o'er the bridl'd land,
 The shiv'ring wretches, at the curfeu * found,
 Dejected shrunk into their fordid beds,
 And thro' the mournful gloom of ancient times
 Mus'd sad, or dream'd of better. Even to feed
 A tyrant's idle sport, the peasant starv'd †:
 To the wild herd, the pasture of the tame,
 The cheerful hamlet, spiry town ‡, was giv'n,
 And the brown forest roughen'd wide around.

THOMSON.

William, commonly called the conqueror, was the illegitimate son of Robert, the 5th duke of Normandy, by Harlotta, a furrier's daughter of Falaise; and so little was he ashamed of his birth, that he assumed the appellation of Bastard in some of his letters and charters §. William's mother was so infamous a character, that our odious term harlot is supposed, by Dr. Johnson and others, to be derived from her name.

* The curfeu bell, from the French *courre feu*, which was rung every night at eight o'clock, to warn the *English* to extinguish their fires and candles, under the penalty of a severe fine.

† Many populous towns and villages, and indeed the whole country, for above thirty miles in compass, were laid waste to make the New Forest, in Hampshire, for the king's deer and other game. See Chron. and Biog. Exer. 4th edit.

‡ No less than thirty-six churches were destroyed on this occasion. Hence Pope well remarks of this despot, that he

Stretch'd o'er the poor and church his iron rod,
 And serv'd alike his vassals and his God.

§ Hume, vol. i. p. 263.

The

The subjugation of England, of which we have now been speaking, took place in 1066. How many years have elapsed since that event to the present year 1810?
Ans. 744.

No. 89. **CROISADE.**—Croisade, crusade, or *holy war*, imports an expedition of “*banditti saints*,” or *pretended* Christians, against infidels or heretics; particularly against the Turks for the recovery of Palestine, or the Holy Land.

The first croisade was projected in 1094 by a visionary named Peter, commonly called the *hermit*, a native of Amiens, in the department of Somme, late province of Picardy, France. This sanguinary enthusiast was patronized by his *holiness* pope Urban II. who convened a council of 310 *bishops* at Clermont, now in the department of Puy-de-Dôme, France, at which ambassadors of the chief *Christian* and *most Christian* potentates assisted. Who would not shudder to see ministers of the gospel, men designed to preach the pacific doctrine of Jesus Christ, profaning their hands by kindling the torch of war! who would not blush to find that the comfort of the afflicted, the asylum of the wretched, the **CHRISTIAN RELIGION**, should nourish in its bosom monsters born for the destruction of mankind!

At this time Europe was sunk into the most profound ignorance and superstition. The ecclesiastics had the greatest ascendancy over the human mind; and the “mole-eyed million,” who at that period committed the most horrid crimes and disorders, knew of no other expiation than the observances imposed on them by the priests, who were the prime instigators of this frantic undertaking. All orders of men were therefore taught to consider the croisades as the only road to heaven; the greatest criminals were forward in a service, which they imagined would be an expiation of all crimes; and the most enormous disorders were, during the course of these expeditions, committed by monsters inured to wickedness, encouraged by example, and impelled by necessity. And when Jerusalem was taken, these ruffians not only put the numerous garrison to the sword, but

but massacred the inhabitants themselves, without mercy, and without distinction. No age nor sex was spared, not even sucking children.

Twelve thousand wretches
 Receiv'd no mercy: void of all defence,
 Trusting to plighted faith, to purchas'd safety,
 Behold these naked victims, in cold blood,
 Men, women, children, murder'd, basely murder'd!
 The streets ran dismal torrents. Drown'd in blood,
 The very soldier sickens at his carnage.

THOMSON.

After this terrible slaughter, and while their hands were yet polluted with the blood of so many innocent persons, did these impious miscreants march to the holy sepulchre, where they sung anthems to the common Saviour of mankind*; to that Saviour who is styled the *Prince of peace*; who himself expressly declared to his disciples, that *he came not to destroy men's lives, but to save them*; at whose coming *peace was sung*, and at whose departure, *peace was bequeathed!* Such are the horrid effects of bigotry and superstition!

The croisaders distinguished themselves by crosses of different colours, worn on their clothes; ordered, it is said, by the council of Clermont; and were thence called *croisfes*, or cross-bearers, of whom contemporary authors tell us, there were 6,000,000. The English wore them white; the French, red; the Flemish, green; the Germans, black; and the Italians, yellow.

This motley group of profligate adventurers gained, at first, considerable advantages; but before the expiration of the 13th century they were entirely driven from their Asiatic possessions; and the enterprize remains a singular monument of human folly and wickedness. It must, however, be admitted, that to these flagitious

* When the brutal Spaniards had plundered the unoffending Peruvians, and treated them with every species of diabolical cruelty, they preceded the division of their ill-gotten booty by prayer!!

CAMPE'S *Pizarro*. Trans. by Eliza Helme.

expeditions

expeditions we owe the extension of commerce, and a considerable melioration of the European governments*. There were in all nine croisades, in which, according to Voltaire, upwards of 2,000,000 of human beings perished.

The first croisade took place in 1096; how long is that ago this present year 1810? *Ans.* 714 years.

No. 90. IRELAND SUBDUED. — Ireland was formerly divided among a number of petty sovereigns; a circumstance which facilitated Henry the Second's conquest of that valuable island in 1172, when it became an appendage to the English crown, and has ever since been governed by a lord-deputy, or lord-lieutenant, who acts by the authority and in the name of the king of England. The British parliament had formerly a considerable share in making laws for Ireland; but, during the American war, the Irish obtained an emancipation from all dependence upon that assembly. On the first of January 1801, however, the kingdom of Ireland was UNITED with that of Great-Britain; since which, one Parliament legislates for England, Scotland, and Ireland, See Chron. and Biog. Exer. 4th edit.

The chief places in Ireland are Dublin, Cork, Kinsale, Waterford, Limerick, Belfast, Downpatrick, Carrickfergus, and Londonderry. Linen cloth and salted provisions are the first objects of Irish commerce.

How long has Ireland been annexed to the British dominions this present year 1810? *Ans.* 638 years.

N. B. Ireland was not erected into a kingdom till the year 1542, in the reign of Henry the VIIIth, when the English parliament confirmed an act passed in Ireland for that purpose. From this period the kings of England inserted among their titles, that of *king* of Ireland; whereas before they were stiled only *lords*.

No. 91. UNION OF SCOTLAND AND ENGLAND. — Caledonia was the ancient name of Scotland, whose king, James VI. succeeded to the throne of England on

* See Robertson's Hist. of Cha. V. and Mosheim's Ecc. Hist.

the demise of Queen Elizabeth; which accession produced the union of the two crowns in 1603. In 1707, during Queen Anne's reign, both kingdoms were also united, under the denomination of Great-Britain. This union was not, however, accomplished without much trouble, and some art and intrigue; and upwards of £20,000 were, it is said, distributed among the leading men in Scotland*.

Some of the principal places in Scotland are, Edinburgh, Glasgow, Aberdeen, and Paisley. Herrings and other fish, with linens, gauzes, and stockings, are the chief articles of commerce.

How long have Scotland and England been united this present year 1810? *Ans.* 103 years.

NO. 92. MAGNA CHARTA.—Runnymede, a place between Staines and Windsor, is revered by every son of liberty, as the spot where the liberties of Englishmen received a solemn confirmation. There the tyrant King John, "pressed by a band of noble patriots," was compelled to sign the famous charter, which is now, by way of pre-eminence, called MAGNA CHARTA, and has generally been considered as the bulwark of English LIBERTY. "To make assurance doubly sure," the ratification of this charter has been reiterated no less than thirty several times.

The following elegant inscription for a column at Runnymede was written by Dr. Akenfide:

" THOU who the verdant plain dost traverse here,
 " While Thames among his willows from thy view
 " Retires, O stranger! stay thee, and the scene
 " Around contemplate well. This is the place
 " Where England's ancient BARONS, clad in arms,
 " And stern with conquest, from their *tyrant king*
 " (Then render'd tame) did challenge and secure
 " The CHARTER of thy FREEDOM. Pass not on
 " Till thou hast blest'd their memory, and paid
 " Those thanks which GOD appointed the reward
 " Of public virtue. And if chance thy home
 " Salute thee with a father's honour'd name,

* See Tindal's *Rapin*, vol. xvi. p. 343.

- “ Go call thy sons, instruct them what a debt
 “ They owe their ancestors, and make them swear
 “ To pay it, by transmitting down entire
 “ Those sacred rights to which themselves were born*.”

The celebrated charter in question was wrested from John in 1215; how long has that happy event preceded 1810? *Ans.* 595 years.

No. 93. DIEU ET MON DROIT.—Richard I. of England, defeated the French at Gisors, in the department of Eure, and late province of Normandy, France, A. D. 1198. That monarch's parole for the day was, “*Dieu et mon droit, God and my right,*” which has almost ever since continued the motto of the royal arms of England. How many years have intervened between that victory and the present year 1810? *Ans.* 612 years.

N. B. King William III. used the motto *Je maintiendray, I will maintain*; though he commanded the former to be retained on the great seal. The late Queen Anne used the motto *Semper eadem, always the same*; which had been before adopted by Queen Elizabeth.

No. 94. BIRTH OF THE FIRST PRINCE OF WALES.—When the Saxons made themselves masters of South-Britain, most of the ancient Britons retired to WALES, where they defended themselves with the utmost bravery against the invaders; and they afterwards made many vigorous attempts to maintain their liberties against the encroachments of the kings of England. Edward I. however, subdued the whole country, and annexed it to the crown of England. Perceiving that the Welsh were not entirely reconciled to this revolution, he sent his queen to be delivered in CAERNARVON castle. There she was brought to bed of a son, whom Edward very politically styled *Prince of Wales*; which title the heir to the crown of Great-Britain has borne

- The greatest glory of a free-born people
 Is, to transmit their freedom to their children.

HAVARD'S REGULVS.

almost

almost ever since. The unfortunate Edward II. the first prince of Wales, was born in 1284. How long is that ago this present year 1810? *Ans.* 526 years.

N. B. Edward II. was cruelly butchered in Berkeley-Castle, Gloucestershire, at the instigation of his adulterous queen, the "she-wolf of France."

The shrieks of death thro' Berkeley's roofs did ring,
Shrieks of an agonizing king.

GRAY'S BARD.

Before Henry VIII. had any male issue, he created his daughter Mary princess of Wales.

The revenue accruing to the prince of Wales, from his principality, is computed at about £8000 a year.

No. 95. ICH DIEN, and BATTLE OF CRESSY,—The three *ostrich* feathers with the motto "*Ich Dien*," which in the German language signifies "*I serve*," were added to the arms of the prince of Wales in 1346, after the famous battle of CRESSY, in the department of the Straits of Calais, and late province of Picardy. In that battle, John, king of Bohemia, though blind, served as a volunteer in the French army, and was killed in the action. His crest was three ostrich feathers, with the above motto; which was assumed by Edward the black prince, son to King Edward III. in memorial of this great victory; and it has been ever since adopted by the heirs to the crown of England. How long have the several princes of Wales worn that badge of honour, this present year 1810? *Ans.* 464 years.

N. B. The ostrich is an African bird; wild, and of the shape of a goose, but much larger. The feathers of its wings are of great esteem, and used as an ornament for hats, beds, canopies, &c. When hunted, the ostrich, aided by its wings, runs with great velocity and strength, but never flies. It swallows bits of iron or brass, in the same manner as other birds will swallow small stones or gravel, to assist in digesting or comminuting its food. The ostrich lays her eggs upon the ground, hides them under the sand, and leaves them for the sun to hatch.

This bird is considered as the symbol of cruelty and forgetfulness. See Job xxxix. 13, 14. and Lament. iv. 3.

The ostrich, fillicst of the feather'd kind,
And form'd of God without a parent's mind,
Commits her eggs, incautious, to the dust,
Forgetful that the foot may crush the trust.

COWPER.

No. 96. BATTLE OF POITIERS.—This place is situated in the department of Vienne, and late province of Poitou, in France. There the Black Prince obtained a decisive victory over the French in 1356, and made John, king of France*, and his son Philip, prisoners, whom he brought to England, where David Bruce, king of Scotland, was a captive at the same time. This last monarch had been defeated at the battle of Nevil's Cross, near Durham, by an army raised by Philippa, consort to King Edward, and commanded by Lord Piercy†. How many years has the victory at Poitiers preceded the year 1810? *Ans.* 454 years.

N. B. It was the just-mentioned John, King of France, who, to the utter confusion of some of his royal brethren, delivered that excellent sentiment, that *truth, outraged and expelled by the rest of mankind, should find an honourable and cordial reception in the breasts of sovereigns.* In perfect unison with this noble avowal, is the declaration ascribed by our great bard even to a professed heathen:

Every drop of blood
That every Roman bears, and nobly bears,
Is guilty of a several bastardy,
If he do break the *smallest particle*
Of any *promise* that hath pass'd from him.

SHAKSPEARE.

* See Chron. and Biog. Exer. 4th edit. May 24, 1357.

† Sir Henry Picard, who, in 1357, had been Lord-Mayor of London, most sumptuously entertained in one day, in the year 1363, four monarchs; namely, Edward, king of England; John, king of France; the king of Cyprus; and David, king of Scotland. The celebrated Black Prince, and many of the nobility, were also present at the feast. See Stow's Annals, p. 263.

No. 97. BATTLE OF AGINCOURT.—Agincourt, a village in the French Netherlands, now included in the department of the Straits of Calais, is celebrated in our annals as the place where Henry V. defeated the French in 1415. The enemy, headed by the dauphin and all the princes of the blood, were four times more numerous than the English. The different situations of the two armies, on the eve of the engagement, is admirably described by Shakspeare :

Proud of their numbers, and secure in soul,
 The confident and over-lusty *French*
 Do the low-rated *English* play at dice ;
 And chide the cripple tardy-gaited night,
 Who, like a foul and ugly witch, doth limp
 So tediously away. The poor condemned *English*,
 Like sacrifices, by their watchful fires
 Sit patiently, and inly ruminate
 The morning's danger : and their gesture sad,
 Investing lank-lean cheeks, and war-worn coats,
 Presenteth them unto the gazing moon
 So many horrid ghosts.

The poet's delineation is corroborated by the testimony of our best historians, who assure us, that the English army languished with sickness and fatigue, and were in great want of food ; while the French were in perfect health, and plentifully supplied with provisions of every kind. But Henry's valour was such, as no danger could startle, and no difficulties oppose ; nor was his policy inferior to his courage. His conduct in this perilous juncture bespoke him consummate in the art of commanding :

—Forth he goes, and visits all his host ;
 Bids them good morrow, with a modest-smile ;
 And calls them brothers, friends, and countrymen.
 Upon his royal face there is no note
 How dread an army hath enrounded him ;
 Nor doth he dedicate one jot of colour
 Unto the weary and all-watched night ;
 But freshly looks, and over-bears attaint,
 With cheerful semblance and sweet majesty ;
 That every wretch, pining and pale before,
 Beholding him, plucks comfort from his looks :

A largests univerfal, like the fun,
His liberal eye doth give to ev'ry one,
Thawing cold fear*.

SHAKSPEARE.

The event of the battle was fuch as might be expected from the oppofite conduct of its chiefs. Prefence of mind, dexterity, courage, firmnefs, and precaution, were manifested on the part of the Englifh: precipitation, confufion, and vain confidence, on the part of the French, who loft 10,000 men in the engagement, and had befides 14,000 taken prifoners. All the Englifh who were flain did not, according to *some* hiftorians, exceed 40; though other writers, with greater probability, make the number more confiderable. After the great bufinefs of the day was over, the renowned Prince ordered the 114th and part of the 115th Pfalm to be fung in the field of battle. When the triumphant Englifh came to the beginning of the fifth verfe of the laft-mentioned Pfalm, the whole victorious army fell down upon their knees, and shouted with one heart, and with one voice, "O Lord, not unto us," &c. &c.†

The

* The high-fpirited answer of DAVID GAM, a Welch captain, whom Henry had fent to reconnoitre the enemy, deferves to be recorded here. Being interrogated concerning the number of the French, he replied, "An't please you, my liege, there are enough to be killed, enough to run away, and enough to be taken prifoners." Sacrificing his life for the king's personal fafety in the ensuing conflict, this valiant Cambro-Briton, as he lay expiring of his wounds, was knighted by the grateful monarch. This hero's refidence was at Old Court, near Abergavenny, in Monmouthshire. The dukes of Beaufort and the earls of Pembroke are defcended from Gladys, one of his numerous defcendants*. When the heroic DIENECES, a Spartan, was informed, before the battle of Thermopylæ†, that the Perfians were fo numerous that their arrows would darken the light of the fun, he bravely replied, that it would be a great convenience, for they fhould then fight in the fhade.

† The famous Duke of Marlborough never failed to give thanks to God, after a victory.

* Barber's Tour, p. 391.

† See No. 20, page 23.

The

The victory of Agincourt was obtained by Henry V. on St. Crispin's day*, October 25, 1415. How long is that ago this present year 1810? *Ans.* 395 years.

No. 98. BATTLE OF TOWTON.—Towton, a place situated S. E. of Tadcaster, in Yorkshire, is noted for an engagement between the deluded adherents of the houses of York and Lancaster. This famous battle is generally supposed to have been one of the most fierce and bloody that ever happened in any domestic war. Both armies consisted of 100,000 men; above 36,000, some historians say 40,000, of whom were "made a prey for carrion kites and crows" in this fatal conflict, which terminated in a total victory on the side of the Yorkists. This event took place in 1461; how long is that ago this present year 1810? *Ans.* 349 years.

N. B. Persons at this period took different symbols. The partisans of the house of Lancaster chose the *red rose* as their mark of distinction; those of York were denominated from the *white* :

Then will I raise aloft the *milk-white rose*,
With whose sweet smell the air shall be perfum'd;
And in my standard bear the arms of *York*,
To grapple with the house of Lancaster.

SHAKSPEARE.

These intestine wars were therefore known over Europe by the name of the quarrel between the *roses*. They originated with the descendants of Edward III. That monarch was succeeded by his grandson Richard II. who

The Great Gustavus Adolphus, King of Sweden, who was killed at the battle of Lutzen†, never engaged in any battle without first praying at the head of the troops he was about to lead towards the enemy, sometimes with and sometimes without book. The word given for the day on which the battle of Lutzen was fought, was "God be with us." SEWARD'S Anecdotes of Distinguished Persons, vol. 1. p. 190.

* See Chron. and Biog. Exer. 4th edit.

† See Nov. 6, 1632, and Aug. 4, 1604, Chron. and Biog. Exer. 4th edit.

being deposed, the duke of Lancaſter was proclaimed king by the title of Henry IV. in prejudice to the duke of York, the right heir to the crown; he being deſcended from Lionel, the *ſecond* ſon of Edward III. whereas the duke of Lancaſter was the ſon of John of Gaunt, the *third* ſon of King Edward. The acceſſion of Henry to the throne occaſioned ſeveral conſpiracies, and the battle of SHREWSBURY, during his reign; and the animofities which ſubſiſted between his deſcendants and thoſe of the duke of York afterwards filled the kingdom with civil commotions, and deluged its plains with blood, particularly in the reigns of Henry VI. and Edward IV.

But little now avail'd
 The ties of friendſhip: ev'ry man, as led
 By inclination or vain hope, repair'd
 To either camp, and breath'd immortal hate,
 And dire revenge. Now horrid Slaughter reigns;
 Sons againſt fathers tilt the fatal lance,
 Careleſs of duty, and their native grounds
 Diſtain with kindred blood.

Here might you ſee
 Barons and peaſants on th' embattled field
 Slain, or half-dead, in one huge ghafly heap
 Promiſcuouſly amafs'd. With diſmal groans
 And eulation in the pangs of death
 Some call for aid, neglected; ſome o'erturn'd
 In the fierce ſhock lie gasping and expire,
 Trampled by fiery courſers. Horror thus
 And wild uproar and deſolation reign'd
 Unreſpited.

PHILIPS.

No. 99. BATTLE OF BOSWORTH. Boſworth-Field, Leiceſterſhire, is famous in our annals for the defeat and death of Richard III. in the year 1485; when his antagoniſt, Henry, earl of Richmond, was immediately proclaimed king by the ſtyle of Henry VII. Great crimes have been imputed to Richard, particularly the murder of Edward prince of Wales, ſon of Henry VI. the murder of Henry VI. the murder of his brother, George, duke of Clarence; the execution of Rivers, Gray, and Vaughan; the execution of Lord Haſtings; the murder of Edward V. and his brother; and the murder of his queen.

queen. Accordingly, historians represent Richard as one of the most detestable tyrants that ever disgraced the English throne. His person is thus delineated by Shakspeare :

Deform'd, unfinish'd, sent before his time
 Into this breathing world, scarce half made up,
 And that so lamely and unfashionable,
 That dogs bark'd at him, as he halted by them.

Nor was his mind, as pourtrayed by the same great poet; less deformed than his body :

Tetchy and wayward was his infancy;
 His school-days, frightful, desperate, wild, and furious;
 His prime of manhood, daring, bold, and venturous;
 His age confirm'd, proud, subtle, sly, and bloody;
 More mild, but yet more harmful, kind in hatred*.

The engagement in Bosworth-Field was the *thirteenth* and *last* battle between the houses of York and Lancaster. In these sanguinary and unnatural contests, which, as an eminent writer observes, arose from the *folly* of an attachment to certain persons and families as possessed of some *inherent right* to kingly power, many of the most ancient families of the kingdom were entirely extinguished, and no less than 100,000 human beings lost their lives!!

“ Men of one nature, of one substance bred,
 “ Who met in these intestine shocks
 “ And furious close of civil butcheries;
 “ Making war upon themselves, blood against blood,
 “ Self against self. O most preposterous
 “ And frantic outrage.”

* It is, however, proper to inform our young readers, that Horace Walpole, late earl of Orford, has, in a tract entitled “Historical Doubts,” examined the circumstances of each crime, and the evidence of each of the charges against this monarch; and has endeavoured to prove, that some of the crimes imputed to him were contrary to his interest, almost all inconsistent with probability or with dates, and some of them involved in material contradictions. It is certain, that the partizans of the house of Tudor took much pains to blacken Richard's memory; and that sufficient evidence has not been produced of the crimes charged against him; nor does it appear, that his person was so deformed as it has been represented.

How long has the battle of Bosworth preceded the year 1810? *Ans.* 325 years.

N. B. The interests of the houses of York and Lancaster were blended in the marriage of Henry VII. and the princess Elizabeth, daughter of Edward IV.

Richmond Henry, by nuptial rites
Did close the gates of Janus*, and remove
Destructive discord. Now no more the drum
Provokes to arms, or trumpet's clangour shrill
Affrights the wife's or chills the virgin's blood.

PHILIPS.

No. 100. PRINTING.—The art of printing, at least in Europe, is a modern discovery; and who were the first inventors of European printing, in what city, and what year, it was at first set on foot, has been long disputed among the learned. In effect, as the Grecian cities contended for the birth of HOMER†, so do the German cities for that of printing. MENTZ, HAERLEM, and STRASBURGH, are the warmest on this point of honour: the first has always had a majority of voices; but the question,

* JANUS is said to have been the most ancient king who reigned in Italy. After death he was ranked among the gods, and worshipped by the Romans, on account of the civilization which he introduced among the wild inhabitants of Italy. His temple, which was always open in times of war, was shut only three times during above 700 years. One of these periods was in the time of Augustus; in whose reign, as we have before observed, Jesus Christ was born.

† "Sev'n mighty towns contend for HOMER dead,
"Through which the living HOMER begg'd his bread."

The seven illustrious cities which disputed the right of having given birth to the greatest of poets, are the following:

Smyrna, Chios, Colophon, Salamis, Rhodes, Argos, and Athens.

The Chiois, says Dr. Chandler, still pretend to shew the school of Homer and his dwelling-house, where he composed most of his unrivalled poems; the testimonies of many ancient writers are also decidedly in favour of Homer's being a native of Chios: though some affirm that Smyrna has a greater claim to this honour. See Troy, Index.

in

in reality; is not yet justly decided*. MENTEL of Strafburgh, GUTTENBURG and FAUST of Mentz, and COSTER of Haerlem, are the persons to whom this honour is severally ascribed by their respective countrymen; and they have all had their advocates among the learned. The introduction of this invaluable art into England is justly ascribed to WILLIAM CAXTON, a merchant of London, who had acquired a knowledge of it in his travels abroad. The bare mention of printing should fill every modern with gratitude to Divine Providence for the communication of so invaluable an art. For, if man's intellect be the faculty which bears the principal and most marked traits of the CREATOR'S image, how inestimable every aid for facilitating the operations, and forwarding the perfection of that power! This assistance the invention of printing has administered in a most signal manner, by diffusing among every class of men a degree of knowledge, which, previously to the discovery in question, is known to have been confined to very few. Before the invention of printing it was hardly possible, from the great expence of manuscripts, for the lower classes to obtain even an imperfect knowledge of the sacred writings.

This single consideration places the importance and benefits of printing in a very distinguished point of view; and with a pre-eminence so decisive, that it precludes the necessity of dilating on the other advantages, however numerous and extensive, which not only derive their origin from the same source, but are indebted to it for stability and duration. In a word, the art of PRINTING confers immortality on heroes, patriots, legislators, and philosophers; on the best, and greatest, and wisest, of the human species! For, as an elegant poet remarks,

* The first book printed with moveable types was a copy of the Bible, which made its appearance between the years 1450 and 1462. This discovery is certainly to be attributed to the Germans, whether it consisted in printing with blocks of wood, or types moveable at pleasure. John Guttenburg, of Mentz, has the best claim to the honour of this invention. See Mr. Roscoe's Life of Lorenzo de Medici, vol. i. p. 43. This elegant writer's opinion is recently confirmed by Santander, in his Dictionnaire Bibliographique.

Sepulchral columns wrestle but in vain
 With all-subduing time; his cank'ring hand,
 With calm deliberate malice, wasteth them:
 Worn on the edge of days, the brass consumes,
 The busto moulders, and the deep cut marble,
 Unsteady to the tool, gives up its charge.

BLAIR.

CAXTON * introduced the knowledge of printing into England in 1474. How long is that ago this present year 1810? *Ans.* 336 years.

NO. 101. PARISIAN MASSACRE.—The Parisian massacre was carried on with such perfidy, and executed with such cruelty, as would surpass all belief, were it not attested with the most undeniable evidence. In the year 1572, in the reign of Charles IX. many of the principal Protestants were invited to Paris, under a SOLEMN OATH of safety, upon occasion of the marriage of the king of Navarre, the head of the Protestant party, with the French king's sister. Though doomed to destruction, they were received with caresses, loaded with honours, and treated, for seven months, with every possible mark of familiarity and confidence. In the midst of their security, the warrant for their destruction was issued by their sovereign, on whose word they had relied; and in obedience to it, their countrymen, their fellow-citizens, and companions, imbrued their hands in their blood. This horrid butchery began on the 24th of August, being Bartholomew's day, on which, and the two succeeding days, above 10,000 Protestants, without distinction of

* William Caxton is said to have been a native of Caxton, a village near Cambridge; this, however, though generally credited, is erroneous; Caxton himself having affirmed, that he was born in Kent; a circumstance which was originally noticed by Dr. Conyers Middleton, in his curious "Dissertation on the Origin of Printing in England." The first book printed in the English tongue was "The Recuyell of the History of Troy;" and is dated September 19, 1471, at Cologne. The "Game of Chesse," dated in 1474, is allowed, by all the typographical antiquaries, to have been the first specimen of the art among us. Mr. Caxton died in 1486, or according to other accounts in 1491. See Chron. and Biog. Exer. Aug. 14, 1457.

age, or sex, or condition, were murdered in Paris alone. A butcher boasted to the king, that he had ~~down~~ down 150 in one night; and De Thou, a celebrated French historian, affirms, that he had often, with the utmost horror, seen a goldsmith, named Crucé, who boasted of having killed 400 with his own hands*. A like carnage ensued in the provinces, where upwards of 25,000 more were destroyed by those blood-thirsty miscreants. This horrid deed was, however, applauded in *Spain*; at *Rome*, solemn thanksgivings were offered to God for its success; and medals were struck at *Paris* in honour of it.

The horrid massacre of Paris happened in 1572; how long is that ago this present year 1810; *Ans.* 238 years.

No. 102. IRISH MASSACRE.—This tragical event took place in the year 1641. By the instigation of the Romish priests, the persons, houses, cattle, and goods of the English in Ireland were seized; an universal massacre ensued; and neither age, nor sex, nor infancy, were spared; all conditions were involved in one general ruin. "After rapacity had fully exerted itself," says Mr. Hume, "cruelty, and the most barbarous that ever, in any nation, was known, or heard of, began its operations."—"Death was the lightest punishment inflicted by these more than barbarous savages. All the tortures which wanton cruelty could devise, all the lingering pains of body, the anguish of mind, the agonies of despair, could not satiate" their revenge. By some accounts, the number of persons who were slaughtered in this massacre are stated to amount to one hundred and fifty, or two hundred thousand; but by other accounts they are computed at only forty thousand.

How long has the Irish massacre preceded the present year 1810? *Ans.* 169 years.

No. 103. SPANISH ARMADA.—

There was a time
When all the pride of Spain, in one dread fleet,
Swell'd o'er the lab'ring surge, like a whole heaven

* See Chron. and Biog. Esser. Aug. 24, 1572.

Of clouds, wide roll'd before the boundless breeze.
 Gaily the splendid armament along
 Exultant plough'd, reflecting a red gleam,
 As sunk the sun o'er all the flaming vast;
 Tall, gorgeous, and elate, drunk with the dream
 Of easy conquest*; while with bloated war,
 Stretch'd out from sky to sky, the gather'd force
 Of ages held in its capacious womb:
 But soon, regardless of the cumb'rous pomp,
 The dauntless BRITONS came, a gloomy few!
 With tempest black the goodly scene deform'd,
 And laid their glory waste †. The bolts of fate
 Resistless thunder'd thro' their yielding sides;
 Fierce o'er their beauty blaz'd the lurid flame;
 And seiz'd in horrid grasp, or shatter'd wide
 Amid the mighty waters, deep they sunk ‡.
 Then, too, from every promontory chill,
 Rank fen, and cavern, where the wild wave works,
 There came confederate winds, and swell'd a storm §.
 Round the glad isle, snatch'd by the vengeful blast,
 The scatter'd remnants drove; on the blind shelve
 And pointed rock, that marks the indented shore,
 Relentless dash'd, where loud the northern main
 Howls thro' the fractur'd CALEDONIAN isles ¶.

THOMSON.

How

* No doubts were entertained, but such vast preparations, conducted by officers of consummate skill, must finally be successful. And the Spaniards, ostentatious of their power, and elevated with vain hopes, denominated their navy the *Invincible Armada*.

† Lord Howard of Effingham had the command of the English navy. Drake, Hawkins, and Frobisher, the most renowned seamen in Europe, served under him.

‡ The English, in an engagement in the English Channel, took or destroyed about twelve of the enemy's ships; besides doing great damage to many others.

§ Queen Elizabeth was so sensible of this signal interposition of Providence, in favour of our "sea-girt isle," that in the reverse of a medal which was struck to perpetuate the memory of the defeat of the Armada, she caused a fleet to be represented beaten by a tempest, and falling foul upon one another, with that religious inscription, "*Affavit Deus, et dissipantur*. He blew with his wind and they were scattered." See July 19, 1588. Chron. and Biog. Exer.

¶ The remaining part of the Armada, in attempting to return home by sailing northwards, was overtaken by a violent tempest near the

How many years have elapsed between the glorious victory now under consideration, which was obtained in 1588, and the present year 1810? *Ans.* 222 years.

No. 104. GUNPOWDER TREASON.—This conspiracy is one of the most memorable events that history has conveyed to posterity; containing at once, as Hume remarks, a singular proof both of the strength and weakness of the human mind; its widest departure from morals, and most steady attachment to religious principles. This detestable plot was formed by the Roman-Catholics to blow up the Parliament-House, and consign to inevitable destruction the king (James I), lords, and commons, there assembled; a fact as certain as it appears incredible. The principal conspirators were Winter, Catesby, Percy, and Fawkes. This last undertook to set fire to the train of gunpowder, but was apprehended the preceding evening.

Several of the conspirators were executed at the west end of St. Paul's, Jan. 30, 1606; others, among whom was Fawkes, the ensuing day, in the Old-Palace-Yard, Westminster; and many Jesuits, their accomplices, suffered death in the course of the year at Tyburn.

Guy Fawkes and his associates assembled, and concerted the Gunpowder-Plot, at the Old King's-Head Tavern, Leadenhall-Street. Part of this house yet remains, and is said to be the oldest building in London, having escaped

the Orkneys*, and many of the ships were miserably wrecked either on the western isles of Scotland, or on the coast of Ireland. Not half of the navy returned to Spain.

They trust in navies, and their navies fail,
 God's curse can cast away ten thousand sail:
 His pow'r secur'd us when presumptuous Spain
 Baptiz'd her fleet invincible in vain.

COWPER.

* The Duke of Medina Sidonia, Admiral of the Armada, was wrecked on the east side of Fair-Island, between Shetland and Orkney, in the Northern Ocean; and tradition still points out the humble residence of that shipwrecked nobleman. The island is reckoned one of the Shetland isles.

all the conflagrations that have happened. It has lately been new fronted, and is occupied by Mr. Barrow, the biscuit-baker.

The Gunpowder-Plot was to have been executed Nov. 5, 1605; how long is that ago this present year 1810? *Ans.* 205 years.

No. 105. DECOLLATION OF CHARLES I.—Charles I. in consequence of his tyrannical administration, was at length publicly executed, at the front of his own palace at Whitehall. He involved his subjects in all the horrors of civil war, merely to support his own unjust claims; and yet he has been styled THE BLESSED MARTYR. But he was certainly a martyr to nothing, but to his obstinacy, and his despotic disposition. Voltaire said, that every king in Europe got up with a crick in his neck on the 30th of January. When Quin, the celebrated actor, was once asked, by what law of the land Charles was beheaded, he replied, “By all the law that he had left in it.” The day of Charles’s decapitation has been long kept as a solemn fast; but a motion was made some years ago, in the House of Commons, for setting aside the observance of the 30th of January; when it was remarked by one of the members, “That the day ought ever to be remembered, that future kings might know what a brave and free people dare do.” Some of the ablest defenders of our constitutional rights assert, however, that the punishment of *death* can never be inflicted on a British Monarch without subversion of the law and constitution*.

King Charles I. was beheaded January 30, 1649; how long is that ago this present year 1810? *Ans.* 161 years.

N. B. Charles I. was the *ninth* English monarch whom a violent catastrophe had deprived of life and reign since the year 1066, viz. Harold II. William II. Richard I. Edward II. Richard II. Henry VI. Edward V. and Richard III. Henry II. also died of a broken heart. Such is the precarious tenure on which some of the most distinguished personages have held their lives and possessions!!

* See art. Charles I. Chron. and Biog. Exer.

No. 106. ACT OF UNIFORMITY.—In the immoral and licentious reign of Charles II. an act was passed, enjoining an uniformity in matters of religion; and among other injunctions, requiring all ministers, who would continue in the church, or be admitted to livings, to declare their assent and consent to a new edition of the Common-Prayer-Book, *before many of them could have an opportunity of seeing it.* This was called the ACT OF UNIFORMITY, and caused upwards of 2,000 pious and conscientious ministers to quit the church of England, and take their lot among the Dissenters, who hereby received so large an addition, that they may be considered as the fathers of the dissenting interest. The glorious stand which these good men made in favour of Christian liberty did great honour to the Protestant faith, and tended, more than a thousand other arguments, to convince a profligate age of the REALITY OF RELIGION, and the regard that is due to the rights of conscience.

Mr. Palmer's *Nonconformist's Memorial* contains a concise view of the lives and characters of these ejected worthies.

The great Mr. Locke*, speaking of this arbitrary and impolitic act, observes, that "Bartholomew's day was fatal to our church and religion, in throwing out a very great number of *worthy, learned, pious, and orthodox divines.*"

This event took place August 24, 1662, (just 90 years after the massacre of Paris); how long is that ago this present year 1810? *Ans.* 148 years.

No. 107. ABDICATION OF JAMES II.—The popish bigot and TYRANT James II. guided by the Jesuit Peters, his confessor, and the infamous Chancellor Jefferies†, after endeavouring to subvert the constitution of the kingdom, by breaking the original contract betwixt the king and people, and violating the fundamental laws of the realm, more especially those enacted for the security of the Protestant religion, being unable longer to face the

* See Chron. and Biog. Exer. October 28, 1704.

† See Chron. and Biog. Exer. April 18, 1689.

just resentment of his much-injured subjects, abdicated the government in 1688, and escaped to France.

The tyrant from our shore
Like a forbidden dæmon fled,
And to eternal exile bore
Pontific rage and vassal dread:
There sunk the mould'ring Gothic reign;
New years came forth, a lib'ral train!
Call'd by the PEOPLE's great decree.

AKENSIDE.

James II. died at the palace of St. Germain, near Paris, in 1701; how long did he survive his abdication?
Ans. 13 years.

No. 108. GLORIOUS REVOLUTION.—The brave prince of Orange*, afterwards WILLIAM III. landed at TORBAY in Devonshire, in 1688. He was invited over to England, to protect the country from the tyrannical oppressions of James II. This interesting event has been styled in the British history the GLORIOUS REVOLUTION, and King William is much celebrated for his share in the transaction.

To save Britannia, lo!
Than hero more! the patriot of mankind!
Immortal NASSAU came.
Arriv'd; the pomp, and not the waste of arms,
His progress mark'd.
His was the bloodless conquest of the heart;
Shouts without groans, and triumph without war.

THOMSON.

Among the principal promoters of the Revolution were the earls of Devonshire and Danby, with the Lord Dela-

* Orange, an ancient and considerable town, is the capital of the principality of the same name, in the department of Drome and late province of Dauphny, France. It devolved to the house of Nassau in 1581, but was seized by Lewis XIV. during the war with King William. On the demise of this last monarch in 1702, it was claimed by the king of Prussia, who in 1713 exchanged it for Guelders in the Netherlands.

mer. They met privately at Whittington, a village on the edge of Scarfdale, in Derbyshire; and the house in which they assembled has ever since been denominated the Revolution-House. A print of this distinguished cottage may be seen in the Gent. Mag. for Feb. 1789.

Where Scarfdale's cliffs the swelling pastures bound,
 ————— There often let the farmer hail
 The sacred orchard which imbrow's his gate,
 And shew to strangers passing down the vale
 Where CAV'NDISH, BOOTH, and OSBORNE sat,
 When burbling from their country's chain
 Ev'n in the midst of deadly harms,
 Of papal snares and lawless arms,
 They plann'd for FREEDOM this her noblest reign.

AKENSIDE.

By this exclusion of King James, and the subsequent transactions, particularly the ratification of the Bill of Rights, the rights of the inhabitants of Britain were more clearly ascertained, and better established, than at any preceding period. "By the Revolution future English monarchs were instructed, that government was not instituted for the benefit of the prince, but of the people; that he is accountable to them for the execution of the trust which they have reposed in him; that opposition to tyranny is not only defensible, but meritorious; and that the welfare and dignity of a nation depend upon their firm and intrepid adherence to the great principles of public freedom, of just and equal liberty."

The Revolution took place in 1688; how long is that ago this present year 1810? *Ans.* 122 years.

No. 109. BANKRUPT.—A bankrupt is a person in debt beyond the power of payment; the term is supposed by some to be derived from the Italian *banco roto*, *broken bench*; while others assert, that it comes from the French *banqueroute*, which signifies a breaking or failing in the world. The supporters of the former etymology assign the subsequent plausible relation in favour of their opinion. The bankers, or money-changers of Italy, had *benches* in the exchange, and other public places, on which they
 told

told their money, and wrote their bills of exchange; and when any one became insolvent, his *bench was broken*, to advertise the public that he was no longer in a condition to continue his business. Banking was first invented at Florence. See Spectacles, Index: and Chron. and Biog. Exer. January 8, 1642, and Aug. 14, 1794.

Suppose the effects of a bankrupt amount to £500, and he owes to A £300 19s 6d. to B £519 7s 6d. to C £218 14s 5d. and to D £25 10s. what is the deficiency? *Ans.* £564 11s 5d.

No. 110. MERCHANTS.—

“ Our isle to COMMERCE owes her splendid state,
“ The source of all that makes her truly great.”

Merchants are persons who traffic to foreign countries; and there are not, as Addison justly remarks, more useful members in a commonwealth than merchants. They knit mankind together in a mutual intercourse of good offices, distribute the gifts of nature, find work for the poor, augment the wealth of a nation, and increase the comforts and conveniences of life. Our English merchant converts the tin of his own country into gold, and exchanges his wool for rubies. The Mahometans are clothed in our British manufacture, and the inhabitants of the frozen zone warmed with the fleeces of our sheep. “ How superior,” says an ingenious writer, “ is such a man, in the eye of reason and of heaven, to the NOBLE of a thousand years, who has received his hereditary possessions without a single effort of his own, and enjoys them, even in the most favourable description, under the influence of hereditary pride; elegant passion, or refined luxury!”

To censure trade,
Or hold her busy people in contempt,
Let none presume.
Trade to the good physician gives his balms;
Gives cheering cordials to th' afflicted heart;
Gives to the wealthy delicacies high;
Gives to the curious works of nature rare;
And when the priest displays, in just discourse,

HIM,



HIM, the all-wise CREATOR, and declares
 His presence, pow'r, and goodness, unconfin'd,
 'Tis trade, attentive voyager, who fills
 His lips with argument.

DYER.

Suppose a merchant commencing business with £10,000, gains £1099 15s. 6d. in the course of a year, and at the expiration of that period distributes in "meek-eyed, heaven-descended charity" the sum of £114 16s. 4d. what is the balance remaining in hand? *Ans.* £10,984 19s. 2d.

No. 111. POST-CHAISES.—Post-Chaises were invented by the French, and, according to Mr. Granger, introduced into England by Mr. William Tull, son of the well-known writer on husbandry. A sort of light open chaise, chariot, or calash*, was, however, in use among the Romans, and said to have been invented by the Emperor Augustus or Trajan. The chariot of the Ethiopian grandee, or officer, mentioned Acts viii. 27, 28, was, it is supposed, something in the form of our chaises with four wheels; for though he did not guide it himself, there was room for another person to come and sit with him (ver. 31); the charioteer therefore seems to have sat in a seat by himself.

If a post-chaise and pair of horses cost £120 10s. and the latter be valued at £52 12s. what is the price of the chaise? *Ans.* £67 18s.

No. 112. SEDAN-CHAIRS.—Sedan-Chairs were first introduced in London in 1634, when Sir Sanders Duncomb obtained the sole privilege to use, let, and hire a number of such covered chairs, for fourteen years. Dr. Johnson, in his Dictionary, conjectures, that they were originally made at Sedan †, a strong city in the department

* Daniel, a sprightly swain, who us'd to lash
 The vig'rous steeds that drew his lord's calash.

KING.

† Sedan, in 1611, gave birth to the humane Turenne, a renowned marshal of France in the time of Louis XIV. He is styled

ment of the Ardennes, and late province of Champagne, France, whence they obtained their name*. The first sedan-chair seen in England was in the reign of James I. and was used by the duke of Buckingham, to the great indignation of the people, who exclaimed, *that he was employing his fellow-creatures to do the service of beasts.*

Suppose an American merchant should remit goods to his correspondent in London to the amount of £200, with orders for one sedan-chair at £25 10s. another at £18 18s. and a third at £42, to be sent in return; how much would remain due to the American? *Ans.* £113 12s.

No. 113. From two hundred and fifty pounds, take fifty-four pounds.

No. 114. From a thousand pounds, take one hundred and twenty-five pounds.

No. 115. From a million of acres, deduct one hundred and forty-six thousand.

by Pope the "god-like Turenne." His maxim is justly celebrated and often quoted: — "Je crains le Dieu, et je n'ai point d'autre crainte." He, however, adopted it from the pious Racine:

Je crains Dieu, cher Abner; et n'ai point d'autre crainte †.
I fear my God; and him alone I fear.

Many instances are recorded of Turenne's rigid integrity. He would never listen to any reason, or give way to any measure, or be misled by any inducement, against his conscience. The inhabitants of a great town once offered him 100,000 crowns, upon condition that he would take another road, and not march his troops their way. He answered them, "As your town is not on the road I intend to march, I cannot accept the money you offer me."

Turenne was killed in 1675, at the battle of Saltzbach, near Amberg, in Bavaria, Germany.

† See Bayonet, Index.

† A good man once said to a threatening empress, *nil nisi peccatum times*; I fear nothing but sin.

No. 116. A person being in the present year (1810) in the sixty-first year of his age, what was the year of his nativity?

No. 117. The French revolution took place at Paris, in the year 1789; how long is that ago to this present year (1810)?

No. 118. The present king, George III. was born in the year 1738; what is his Majesty's age this current year (1810)?

No. 119. Borrowed twenty pounds, and paid at several payments three, five, and seven pounds; what is yet owing?

No. 120. From a guinea subtract a farthing.

No. 121. Deduct a farthing from a thousand pounds.

No. 122. Take a guinea from a thousand pounds.

No. 123. Deduct a quarter of a guinea from as many pounds sterling as there are days in a week.

No. 124. Take as many guineas as there are quarters in the globe, from as many pounds sterling as there are calendar months in a year.

No. 125. Deduct as many shillings as there are hours in a natural day, from as many pounds sterling as there are inches in a foot.

No. 126. Take as many pence as there are farthings in a shilling, from as many pounds sterling as there are pence in a pound.

No. 127. Deduct as many shillings as there are weeks in a year, from as many pounds sterling as there are days in a year.

No. 128. From as many marks as there were kings of the Norman line, take as many nobles as there were kings of the line of Plantagenet*.

No. 129. From as many seven-shilling pieces as there were kings of the line of Lancaster, take as many quarters of a guinea as there were kings of the line of York.

No. 130. From as many half crowns as there were sovereigns of the united families of York and Lancaster, take as many halfpence as there were sovereigns during the union of the *crowns* of England and Scotland.

* See Arith. Tables.

No. 131. From as many pounds sterling as there have been sovereigns of the united *kingdoms* of England and Scotland, take as many half guineas as there have been kings of the House of Brunwick (1810).

MULTIPLICATION

IS a compendious kind of addition, consisting of three terms, called the **MULTIPLICAND**, **MULTIPLIER**, and **PRODUCT**. The first is the number given to be multiplied; the second that by which the work is performed; and the third the result of the operation.

EXAMPLES.

No. 132. **ANNUAL REVOLUTION OF THE EARTH.**
 —The earth on which we live is nearly of a spherical form*. This is demonstrated by its shadow in eclipses of the moon being bounded by a circular line; by the manner of seeing objects at a distance, their summits being visible when their bases are intercepted by the horizon;

* I have said nearly of a spherical form, because it has been discovered that the earth, though nearly a sphere, or ball, is not entirely so. This matter occasioned considerable disputes between the philosophers of the last century, among whom Sir Isaac Newton and Cassini, a French astronomer, were the heads of two different parties. Sir Isaac demonstrated, from mechanical principles, that the earth was an oblate sphere, or that it was flatted at the poles, or north and south points, and juttet out towards the equator. The French philosophers asserted quite the contrary. But the matter was put to a trial by the king of France in 1736, who sent out a company of mathematicians and astronomers towards the north pole, and likewise towards the equator, in order to measure a degree, or the 380th part of a great circle, in these different parts; and, from their report, the opinion of Sir Isaac Newton was confirmed beyond dispute. See Chron. and Biog. Exer. art. Ulloa, and Exer. on the Globes, 4th Edit. art. Degree.

and,

and, lastly, by the several voyages which have been made round it.

A form orbicular, how fit to weigh
 The golden gift of light and heat to all
 The scatter'd districts with impartial scale !
 Hence too the waters, those meand'ring veins
 O'er the earth's body interspers'd with just
 Partition, flow salubrious. To the winds,
 Balmy refiners of the winnow'd air,
 This most commodious figure yields a pass
 Free, unobstructed. Had another shape
 Been giv'n, impending angles had oppos'd
 The breezy currents, and mankind had droop'd
 Sickly, and faint from th' intercepted gale.

BALLEY.

The earth has two motions; one round its own axis, which is performed in twenty-four hours; the other round the sun, which it accomplishes in a year. Astronomers assert, that, in the last-mentioned course, it moves with the velocity of 68,000 miles an hour. How many miles, according to this calculation, does it travel in its annual revolution, admitting the year to contain 8,766 hours? *Ans.* 596,088,000 miles!!

No. 133. COACHES.—Coaches, as well as almost all other kinds of carriages which have since been made in imitation of them, were invented by the French, and the use of them is of modern date. Under Francis I. who was contemporary with our Henry VIII. there were only two coaches; that of the queen, and that of Diana, natural daughter of Henry II. The kings of France, before they used these machines, travelled on horseback; the princesses were carried in litters, and ladies rode behind their squires. Till about the middle of the 17th century there were but few coaches in Paris; but prior to the late revolution in that capital they were estimated at 15,000, exclusive of hackney-coaches, and those let out for hire.

The introduction of coaches into England is ascribed by Mr. Anderson, in his History of Commerce, to Fitz-

E

Allen,

Allen, earl of Arundel, in the year 1580* ; and about the year 1605, they were in general use among the nobility and gentry in London.

In the beginning of the year 1619, the earl of Northumberland, who had been imprisoned ever since the Gunpowder-Plot, obtained his liberation. Hearing that Buckingham was drawn about with six horses in his coach (being the first that was so), the earl put on eight to his, and in that manner passed from the Tower through the city †.

Hackney-coaches, which, according to Maitland, obtained this appellation from the village of HACKNEY, first began to ply in the streets of London, or rather to wait at inns, in 1625, and were then only twenty in number. So rapid, however, has been their increase since that period, that London and Westminster now contain 1100.

Supposing each coach to earn only 16s. a day on an average, which is deemed a very moderate computation, the sum of £880 sterling is expended daily in the metropolis, in coach-hire, exclusive of what is spent in glass-coaches, or unnumbered ones. What is the weekly, monthly, and yearly expenditure in the use of these

* Dr. Priestley (Lectures on Hist. p. 384) says, the first coach was seen in England in the reign of Queen Mary* ; and some contend that coaches had even a much earlier introduction into this kingdom. See Andrews's Hist. of Great-Brit. vol. ii. p. 314.

It appeared by the duty on coaches, that in the year 1778 there were 23,000 kept in England. In 1785 the duty amounted to £154,988 in England, and £9,000 in Scotland.

Mail-coaches were first established to Bristol in 1784 ; to other parts of England, and an act to exempt them from tolls, in 1785. The increase of the revenue by this establishment was calculated at £30,000 in 1789. This most admirable, safe, and expeditious plan of conveying letters was invented by Mr. Palmer, of Bath : the wretched situation, however, of the horses, on account of the length of the stages which they are frequently driven, is a disgrace to the character of the British nation, and requires the interference of the legislature.

† Rapin, vol. viii. p. 156.

* Mary died in 1558, in the 6th year of her reign.

vehicles ?

vehicles P. *Ans.* £6,160 per week; £24,640 per month; and £321,200 per year; reckoning 13 months 1 day to the year.

No. 134. Multiply the number of yards in a mile, by the number of feet in a yard.

No. 135. Multiply the number of hours in a year, by the number of days in a week.

No. 136. Multiply the number of days in a year, by the number of years in a century.

No. 137. Multiply the number of farthings in a guinea, by the number of farthings in a pound sterling.

No. 138. Multiply the number of days in the first three months in the year, by the number of days in the three succeeding months.

No. 139. Multiply the number of days contained in all the months of the year that have only thirty days each, by the number of days in the month of February in a leap year.

No. 140. Multiply the number of miles in the circumference of the earth at the equator, by the number of hours that the earth takes to perform its diurnal rotation on its axis.

No. 141. Multiply the number of geographical miles in a degree of latitude, by the number of English miles in a degree of latitude.

No. 142. Multiply the number of degrees in the circumference of the earth at the equator, by the number of minutes in an hour.

No. 143. Multiply the number of yards in a mile, by the number of pence in a pound sterling.

MULTIPLICATION OF MONEY;

OR,

COMPOUND MULTIPLICATION.

MULTIPLICATION of money, applied to business, teaches how to find the value of any proposed number of yards, pounds, &c. at any given price per yard, per pound, &c.

RULE. Multiply the price of one yard, pound, &c. by the number of yards, pounds, &c. the value of which is required in the question.

EXAMPLES.

No. 144. ANCHOVIES.—The anchovy is a small sea-fish, much used by way of sauce or seasoning. It is caught in the months of May, June, and July, in the Mediterranean, on the coasts of Catalonia in Spain, and the late province of Provence, now forming the departments of Var, the Lower Alps, and the mouths of the Rhone, in France; and particularly near the small island of Gorgona, in the Tuscan sea, adjacent to Leghorn.

In years of plenty 20,000 quintals* of anchovies have been exported in a year from Matagat.

What is the value of two pounds of anchovies at 2s. 7d. $\frac{2}{4}$. per pound? *Ans.* 5s. 3d. $\frac{1}{4}$.

No. 145. CAPERS.—Capers are pickled and brought to England annually from Italy, and the Mediterranean; particularly from about Toulon, in the south of France; from whence, it is said, the greatest part of the capers sold throughout Europe are brought; excepting some small salt ones from Majorca, and a few flat ones from

* See Arith. Tab. art. Miscellaneous Tab.

† Mr. Townsend's Journey through Spain, vol. iii. p. 30.

about Lyons. The plant which produces them is a low shrub, which generally grows among rubbish, and out of the joints of old walls, and the fissures of rocks.

Capers from the rock, that prompt the taste
Of Luxury

DYER.

Lady Craven, now Margravine of Anspach, who styles the caper a pretty stinking* creeper, says it grows wild where it is permitted to take root: and Dr. Smollett observes, that this plant requires no culture. Capers are chiefly used in sauces, but sometimes in medicine, as being very aperitive, and employed in certain compositions for diseases of the spleen. In England, broom-buds are frequently substituted for capers.

What is the value of 3 pots of capers at 3s. 4d. per pot? *Ans.* 10s.

No. 146. CAT-GUT.—This is a denomination given to small strings for fiddles and other instruments; made of the intestines of sheep or lambs dried and twisted, either singly, or several together. They are used also by watch-makers, turners, and other artificers. Great quantities are made at Lyons in France, and in Italy.

What is the value of 4 rings of fiddle-strings at 6d. $\frac{1}{2}$. each? *Ans.* 2s. 3d.

No. 147. CORK.—Cork is the bark of a tree of the same name, a species of the oak. It grows in great abundance on the Pyrenean mountains and in other parts of Spain, in France, and in the north of New-England. The Spaniards make what we call *Spanish black*, used by

* Mr. Locke has remarked, that most smells want names; sweet and stinking serving our turn for these ideas, which is little more than to call them pleasing and displeasing. Dr. Delany, in his life of David, has, however, taken occasion to censure the word stink as indelicate, observing that he never pronounced or wrote it from his childhood. He adds, that the term "stinketh," John xi. 39, should be rendered "smelleth." Some of our best writers, as Shakspeare, Granville, Dryden, Pope, Bacon, and Scott, have nevertheless employed it or its derivatives. See Johnson's Dict. fol. or 4to. edit. and Ash's Dict.

painters, of burnt cork. The Egyptians made coffins of cork, which, being lined with a resinous composition, preserved dead bodies uncorrupted. But the chief employ of cork is to put in shoes, slippers, &c. and particularly to stop bottles.

Be sure, nay very sure, thy course be good;
Then future ages shall of Peggy tell,
That nymph who brew'd and bottled ale so well.

KING.

What are five grofs of corks worth at 3*s.* 9*d.* $\frac{1}{4}$. per grofs? *Ans.* 19*s.* 0*d.* $\frac{1}{4}$.

No. 148. CAMLET.—Camlet is a stuff sometimes made of wool, sometimes of silk, and sometimes of hair, especially that of goats, with wool or silk. The true or oriental camlet is fabricated from the pure hair of a sort of goat, described by travellers as an extraordinary species, the most beautiful in the world; their hair being of a silvery whiteness, as fine as silk, and naturally curled in locks eight or nine inches in length.

Mr. Tournefort asserts, that these goats are peculiar to Angora, in Turkey in Asia, and the adjacent districts; a declaration sanctioned by the concurrence of Mr. Coxe*. We have no camlets made in Europe of the goats hair alone; it being found necessary to add a mixture of woollen thread. England, France, Holland, and Flanders, are the chief places of this manufacture. But Brussels exceeds them all in the beauty and quantity of its camlets; and those of England are reputed the second.

Some give the name of mohair to the camlet or stuffs made of the hair now under consideration.

What is the value of 6 yards of camlet at 2*s.* 11*d.* $\frac{1}{4}$. per yard? *Ans.* 17*s.* 9*d.*

No. 149. BRAWN.—Brawn, in the culinary art, signifies the fleshy or musculous parts of a hog, boned, rolled up, or collared, boiled, and, lastly, pickled for winter use. Brawn was an old word for flesh; and though

* Travels, vol. iii. p. 413.

now appropriated to the rolls made from the boar, was once common to all kinds of meat. Among the old recipes of cookery we have brawn of capons, brawn of swine, &c. &c.

Canterbury and Shrewsbury have been long noted for the superior quality of their brawn; and of late brawn has been made at Oxford. See Bourn's Gaz. art. Calais.

What are 7 collars of brawn worth at 19s. 11d. $\frac{1}{4}$. per collar? *Ans.* £6 19s. 10d. $\frac{1}{4}$.

No. 150. COTTON.—Cotton is a plant or shrub of which there are several varieties, and not a few distinct species, propagated in the gardens of the curious among us. The common sort is the herby or shrubby cotton, which is cultivated very plentifully in Candia, Lemnos, Cyprus, Malta, Sicily, Naples, and also between Jerusalem and Damascus, whence the cotton is brought annually into these northern parts of Europe. It is sown on ploughed lands in spring, and cut down as our corn in harvest time, being an annual plant.

The cotton is the wool which encloses or wraps up the seeds, and is contained in a kind of brown husk or seed-vessel, growing upon this shrub. It is from this sort that the vast quantities of cotton are taken which furnish our parts of the world. One very fine sort of cotton is a native of the East and West-Indies: and there are two sorts of cotton trees which grow in Egypt, and often arrive to a great size. Cotton makes a very considerable article of commerce; being used for various purposes, and furnishing various cloths, muslins, calicoes, dimities, and hangings; besides that it is frequently joined with silk and flax, in the composition of other stuffs.

What are 8 pounds of cotton worth at 2s. 8d. $\frac{1}{2}$. per pound? *Ans.* £1 1s. 8d.

No. 151. FIGS.—Figs are a luscious soft fruit, the produce of the fig-tree. They are moderately nourishing, grateful to the stomach, and easier of digestion than any of the other sweet fruits; and accordingly are used in medicine, as ingredients in pectoral decoctions, and in lenitive electuaries. They are also applied externally, to soften, digest, and promote maturation.

In our climate the fig comes into season about August ;
then

The sunny wall
Presents the downy peach, the shining plum,
The ruddy fragrant nectarine, and dark,
Beneath his ample leaf, the luscious fig.

THOMSON.

The best figs are the produce of Turkey*, Italy, Spain, the southern part of France, &c. The islands in the Archipelago yield figs in great abundance, but of an inferior quality. The ancients made use of the juice or sap of a fig for rennet, to cause their milk to coagulate.

The fig's prest juice, infus'd in cream,
To curds coagulates the liquid stream.

POPE'S HOMER.

What is the value of 9 pounds of figs at 7*d.* $\frac{1}{2}$ per pound? *Ans.* 5*s.* 7*d.* $\frac{1}{2}$.

No. 15a. FULLERS-EARTH. — Fullers-earth is a marl of close texture, extremely soft and unctuous to the touch ; when dry it is of a greyish brown colour, in all degrees, from a very pale to almost black, and generally has a greenish cast in it. It is dug up in great plenty in several parts of England ; but the greatest quantity and the finest earth of this kind in the world is found near Wooburn in Bedfordshire. Our superiority in the goodness of this valuable article is assigned as one great reason why the English surpass all other nations in the woollen-manufacture : it being absolutely necessary for the well-dressing of cloth.

The fleece prepar'd, which oil-imbibing earth
Of Wooburn blanches.

DYER.

* The territory of Athens was anciently celebrated for the excellency of its figs.

On this account it is made a contraband-commodity, and the exportation made equally criminal with that of exporting wool. When mixed with vinegar, fullers-earth disperses pimple, checks inflammations, and cures burns.

• What are 10 bushels of fullers-earth worth at 1s. 9d. $\frac{1}{2}$. per bushel? *Ans.* 17s. 11d.

No. 153. INDIGO.—Indigo is a plant chiefly cultivated in the English plantations in America, and by the French; though the Jamaica wild indigo, and the Carolina indigo, have been used with advantage. From this plant is extracted a dyer's drug, of a deep blue colour, brought to us from the West-Indies and America. It is also made in the East-Indies, particularly in the dominions of the Great Mogul, and this is said to be the best. The indigo of the West-Indies probably derived its origin, as it doubtless does its name, from the elder India of the East, where it has long stamped its brilliant and beautiful dyes on the fine linens and calicoes manufactured in the looms of that most ancient empire. Native of a fiery clime, this plant will shoot vigorously amid the sands of those parched and barren savannahs in which other vegetables would inevitably perish; nor does it wholly expire, when deprived, for long intervals, of those genial dews and refreshing rains which, at times descending in great abundance, flush with such transcendent verdure and beauty the luxuriant valleys and painted gardens of the gaudy tropic.

Indigo is used by dyers, calico-printers, and sometimes by painters, for paper hangings; and, finally, by laundresses to impart a bluish cast to their linen.

What are 12 pounds of indigo worth at 2s. 3d. $\frac{1}{2}$. per pound? *Ans.* £1 5s. 2d. $\frac{1}{2}$.

No. 154. IPECACUANHA.—This American root is the mildest and safest emetic that has yet been discovered. It is a little wrinkled root about the thickness of a moderate quill; rough, dense, and firm. One sort is of a dusky greyish colour on the surface, and of a paler grey when broken, brought from Peru, by way of Porto-Bello; the other is a smaller root, resembling the former; but of a deep dusky brown on the outside, and white when

broken, growing plentifully in the Brasils, especially about Carthagena. The grey is most esteemed in physic; though the brown is most used, as being most easily procured. There are several false species of this root, which are sometimes sold in its stead. The genuine ipetacuanha has scarcely any smell, unless during its pulverization or infusion in liquor, when it emits a faint nauseous one.

What is the value of 11 pounds of ipetacuanha at £1 9s. 11d. $\frac{1}{2}$. per pound? *Ans.* £16 9s. 6d. $\frac{1}{2}$.

N. B. This root is sometimes sold at 3s. 6d. or 4s. per pound.

No. 155. LIQUORICE.—This plant is principally cultivated, in this country, about Pontefract in Yorkshire; Godalmin in Surrey; and in the gardens about London. The native liquorice juice is very sweet upon the palate, even more so than sugar, or honey; and is yet accounted a great quencher of thirst. It is very balsamic and detergent; inasmuch that there is scarcely any medical composition for diseases of the breast, in which it is not an ingredient. The liquorice cakes, which are used in England as a remedy for coughs, are made of the juice that is squeezed from the roots of a plant that grows plentifully in Sicily. Great quantities of liquorice are exported from Spain into England. In 1785 no less than 58 tons of this innocent and pleasant drug were sent out of that country to us; and the whole quantity imported into this kingdom from Flanders, Italy, and Spain, in 1788, was upwards of 183 tons; principally for the use of the brewers*.

What is the value of 12 pounds of liquorice at 1s. 1d. $\frac{1}{2}$. per pound? *Ans.* 13s. 6d.

No. 156. RECEIPT.—A receipt is a discharge in writing for money that was due, given by the receiver to the person who pays it†. Pay for six two-penny,

* Townsend's Journey into Spain, vol. ii. p. 339.

† See Arith. Tables, edit. 1810.

seven four-penny, and ten eight-penny stamps, and find the change out of an angel.

No. 157. Pay for six yards of tape at $2d. \frac{1}{2}$. a yard, and two pair of gloves at $2s. 3d.$ per pair, and find the change out of a seven-shilling piece.

No. 158. Pay a servant's wages for five weeks at $4s. 9d.$ a week, and find the change out of a guinea and a crown.

No. 159. Pay for a dozen pounds of candles at $10d. \frac{1}{2}$. a lb, and find the change out of half a guinea.

No. 160. Kent produces cherries and pippin apples; pay for 12 lb of the former at $2d. \frac{1}{2}$. a lb, and 2 bushels of the latter at $16d.$ a peck; and find the change out of an angel and a crown.

No. 161. Battersea, Gravesend, and Reading, are famous for asparagus: it was first planted in England about the year 1602. Pay for eight bundles at $2s. 9d.$ each, and find the change out of a guinea and a half.

N. B. Make a bill of this sum and put a receipt to it.

No. 162. Cos lettuces were originally brought from the island of Cos*, near Rhodes, in the Mediterranean. Pay for a dozen at $1d. \frac{1}{2}$. each, six cabbages at $2d. \frac{1}{2}$. each, and a bushel of beans, at $8d. \frac{1}{2}$. a peck; and find the change out of half a guinea.

N. B. Make a bill of parcels of this sum, and put a receipt to it.

No. 163. Pay for a stone and a half of butcher's meat, at $8d. \frac{1}{2}$. a lb, and find the change out of half a guinea.

No. 164. Mahomet †, a native of Mecca, and who was buried at Medina, is said to have died in consequence of having eaten part of a poisoned shoulder of mutton; supposing the weight of that joint to have been $8\frac{1}{2}$ lb, what was its value at $8d. \frac{1}{2}$. a lb.

No. 165. Woodstock, in Oxfordshire, is noted for the making of steel watch-chains and wash-leather gloves; what are three of the former worth at a guinea and a half each, and a dozen pairs of the latter at $4s. 6d.$

* See Exer. on the Globes, 4th. edit. art. Apelles.

† See Chron. and Biog. Exer.

per pair, and what will remain out of a ten-pound note when they are paid for?

No. 166. Kefwick, in Cumberland, is famous for mines of the best black lead. If a dozen pencils are bought for 3s. 9d. and retailed at 4d. $\frac{1}{4}$. each, what is gained by the sale?

No. 167. Pay for three pair of stockings at four shillings and twopence a pair; four yards of riband at ninepence halfpenny per yard; and five pair of gloves at three shillings and twopence a pair; and find the change out of a guinea and a half.

N. B. Make a bill of parcels of this sum, and put a receipt to it.

No. 168. Hampshire bacon is said to be the best that is produced in England. Pay for twelve pounds at twenty-pence a pound, and find the change out of a mark and a noble.

No. 169. Pay for $3\frac{1}{2}$ lb of common tea at 4s. 10d. a lb, 5 lb of hyson at 8s. 6d. a lb, $7\frac{1}{2}$ lb of green at 9s. 4d. a lb, and 8 lb of fine bloom at 12s. 6d. a lb; and find the change out of a £20 bank-note.

N. B. Make a bill of parcels of this sum, and put a receipt to it.

No. 170. The wearing of buckles commenced in the reign of Charles II. but people of inferior rank, and such as affected plainness in their garb, wore strings in their shoes some years after that period; these last were, however, ridiculed for their singularity in still using them*. Find the value of as many pair of buckles, at a guinea and a half a pair, as there were years of plenty in Egypt in the time of Joseph.

No. 171. The illustrious Addison's library was sold publicly in London, in 1799, for four hundred and fifty-six pounds, two shillings, and ninepence: multiply this sum by the number of years of scarcity that there were in Egypt in the time of Joseph †.

* See the Tatler, No. 38.

† See Chron. and Biog. Exer. art. Addison.

RULE II. When the number of articles whose value is required exceeds 12, as in the subsequent questions, multiply successively by the component parts; *i. e.* by any two figures which, multiplied into each other, produce the given number.

No. 172. LOG-WOOD.—Log-wood grows naturally in the bay of Campeachy, at Honduras, and other parts of the Spanish West-Indies. It is brought into Europe, and employed in dyeing purples, and the finest blacks. It is considered as a very valuable commodity; for, exclusively of its use among dyers, it is found to be an excellent astringent, and is administered in many disorders proceeding from a laxity of the solids.

What are 14 pounds of logwood worth at 1s. 4d. $\frac{1}{2}$. per pound? *Ans.* 15s. 3d.

No. 173. MACE.—This unctuous membrane envelops the shell of the fruit, whose kernel is the nutmeg. It is of an extremely fragrant, aromatic, and agreeable smell, and of a pleasant, but acrid and oleaginous taste. Mace is of an astringent and drying nature, and is used as a corrector in cardiac and cathartic compositions. Its general qualities are nearly similar to those of the nutmeg, with the exception of its sitting easier on weak stomachs. It is brought into Europe from Amboyna, one of the Molucca islands in the East-Indies, now belonging to the English.

What are 15 ounces of mace worth at 3s. 6d. per ounce? *Ans.* £2 12s. 6d.

No. 174. NUTMEG.—This is a delicate kind of aromatic fruit, which is enclosed in four different covers (one of which is called MACE); and is itself properly the kernel. The nutmeg is very much used in our foods, and is of excellent virtues as a medicine; it is a good stomachic, promotes digestion, stops vomiting; it is an excellent remedy in flatulencies; and is happily joined with rhubarb and other medicines, in the case of diarrhoeas. It has also a soporific and astringent quality. The largest, heaviest nutmegs are to be chosen; such as
are

ate of the shape of an olive, well marbled without side, reddish within, unctuous in substance, and of a fragrant smell. By distillation they yield an oil of great use in medicine. This, in consequence of its high price, is sometimes extracted before the nuts are exposed to sale, which greatly diminishes their value. To detect this iniquitous artifice, force a pin into the nutmeg: if it be good, however dry it may appear, the oil will be seen oozing out all round the pin, from the compression occasioned in the surrounding parts.

The whole commerce of nutmegs was till lately in the hands of the Dutch East-India company; but a letter written by Dr. Campbell, at Fort Marlborough in Sumatra, in 1804, contains an account of the cultivation of the clove and nutmeg in that island, since their importation, in 1798, from Banda. Their success has been complete, and will, it is supposed, prove an important national benefit*.

Communications to the Board of Agriculture, vol. iv.

What are 20 ounces of nutmegs worth at 3s. 5d. $\frac{1}{4}$. per ounce? *Ans.* £3 9s. 7d.

No. 175. MANGO.—This is the fruit of a large tree, growing in the isle of Java, and other parts of the East-Indies; but, according to Major Campbell, Goa produces the best mangoes in the world †. They are conveyed into Europe either candied or pickled. In the latter case they are opened with a knife, and the middle filled up with fresh ginger, garlick, mustard, and salt, with oil or vinegar. This fruit, when ripe, is eaten by the natives, either without wine, or macerated in wine. The bark and gum of the tree are also used medicinally. The stalks calcined are said to take away warts.

* It is a fact which ought to be known by the consumers of nutmegs for domestic purposes, that if they begin to grate them at the stalk end, they will prove hollow throughout; whereas by beginning this operation at the other end, the same nutmegs would have proved found and solid to the last: a peculiarity which is owing to the structure of the fibres in the centre of this fruit.

† Journey, part iii. p. 23.

What.

What are 25 mangoes worth at 1s. 3d. $\frac{1}{2}$. each? *Ans.*
 £1 12s. 3d. $\frac{1}{2}$.

No. 176. MANNA.—Manna is a medicinal drug of great use in the modern practice, as a gentle purgative. It is a white sweet juice, oozing from the branches and leaves of a kind of ash-tree, growing chiefly in Calabria, in the southern part of Italy. It is, however, far from being peculiar to this tree, being found on many different sorts, particularly at Briançon, in France. Manna is therefore ranked very properly among the number of gums. The peasants of mount Libanus*, it is said, eat manna ordinarily, as others do honey; and at Mexico they have a manna which they eat as we do cheese.

The best sort, or Calabrian manna, is moderately dry, very light, of a whitish, or pale yellow colour, and in some degree transparent: the inferior kinds are moist, unctuous, and brown. It is sometimes counterfeited by compositions of sugar, honey, and purgative materials.

What are 27 ounces of manna worth at 6d. $\frac{1}{4}$. per ounce? *Ans.* 15s. 2d. $\frac{1}{4}$.

No. 177. JESUS CHRIST BETRAYED.—The preaching of our blessed Saviour, and the numberless miracles that he performed, made such an impression on the body of the Jewish nation, that the chief priests and leading men, jealous of his authority, and provoked at his reproaching them with their hypocrisy and the wickedness of their lives, formed a conspiracy against him. For a considerable time their designs proved abortive; but at last Jesus, knowing that he had fulfilled every purpose for which he came into the world, suffered himself to be taken through the treachery of one of his own disciples, named Judas Iscariot. This "base Judean," as Shakspeare is supposed to have termed him, received 30 pieces of silver as the reward of his perfidy. These, some commentators apprehend to have been 30 shekels; others, that they were 30 denarii, or Roman

* Libanus is a mountain of Turkey, in Asia, formerly famous for cedar-trees; but now there are scarcely any remaining.

88 COMPOUND MULTIPLICATION.

pence. Estimating the former at 2s. 6d. each, and the latter at 7d. $\frac{1}{2}$. which is the usual valuation, how much did the traitor receive according to each of these supputations? *Ans.* £3 15s. if shekels; 18s. 9d. if denarii.

N. B. Some value the shekel at 2s. 9d. $\frac{1}{2}$; others at 2s. 3d. $\frac{1}{8}$. sterling; and the Roman denarius is estimated from 6d. to 8d. $\frac{1}{2}$. sterling.

No. 178. CYPRUS.—This is a thin transparent black stuff, supposed to have received its name from the island of Cyprus in the Mediterranean, where it was first made; or corruptly from *Cypress*, as being used in mourning*.

Lawn, as white as driven snow;
Cyprus, black as e'er was crow.

SHAKSPEARE.

What are 36 yards of cyprus gauze worth at 3s. 9d. $\frac{1}{4}$. per yard? *Ans.* £6 17s. 3d.

No. 179. SATIN.—Satin is a soft, close, and shining silk.

* The cypress tree, being anciently used in funerals, was the emblem of mourning.

Poison be their drink,
Their sweetest shade a grove of cypress trees.

SHAKSPEARE.

The cypress tree is an evergreen, and never either rots or is worm-eaten, any more than cedar or ebony. It is good for making musical instruments, chests, &c.

In ivory coffers I have stuff'd my crowns;
In cypress chests my arras counterpanes.

SHAKSPEARE.

Some are of opinion, that the wood, gophir, of which Noah's ark was made, was cypress; and the Athenians buried their heroes in coffins made of this wood; of which many of the Egyptian mummy chests were also fabricated.

The

The ladies dress'd in rich symar* were seen,
Of Florence satin, flower'd with white and green.

DRYDEN.

What is the value of 42 yards of satin at 8s. 4d. $\frac{1}{4}$ per yard? *Ans.* £17 10s. 10d. $\frac{1}{2}$.

No. 180. MELONS.—Melons are a species of the cucumber†. There is a great variety of this fruit cultivated in different parts of the world; but that sort called the Cantaleupe melon, so denominated from a place near Rome, whither it was brought from Armenia, a country west of the Caspian sea in Asia, is in the greatest esteem among the curious. The water-melon, says Dr. Shaw, is doubtless providentially calculated for the *southern* countries, as it affords a cool refreshing juice, assuages thirst, mitigates feverish disorders, and compensates thereby, in no small degree, for the excessive heats. In Moldavia, a district in Turkey in Europe, the abundance of melons, and the fruit of the strawberry-tree, make up for a scarcity of good water; Melons are sometimes carried to very distant places. Sir John Chardin ate, at Surat, melons that had been sent from Agra. The best, he says, grow in Corasson, near Little Tartary, whence they are carried to Ispahan for the king, and to make presents. See Harmer's Observations, vol. iii. p. 181. A small

* Simarre, sorte d'habit de femme qui étoit en usage parmi les Persans.

RICHELET.

† Cucumbers grew formerly in great plenty in Palestine‡ and Egypt, where, it is said, they constituted the greatest part of the food of the poor people and slaves. This plant is noticed by the ancient poets:

How cucumbers along the surface creep,
With crooked bodies and with bellies deep.

DRYDEN'S VIRGIL.

‡ See Isaiah l. 8.

fort

fort of melons of exquisite flavour is, says Mr. Coxe, sent from Astracan to Moscow, though at the distance of 1,000 miles. These sometimes cost £5 a-piece, and at others they may be purchased in the markets of Moscow for 2s. 6d.*.

Traveli, vol. i. p. 255.

What are 49 melons worth at the last mentioned price ;
Ans. £6 2s. 6d.

No. 181. Pay for half a hundred weight of Carolina rice at 7d. $\frac{1}{2}$. a lb., and find the change out of five seven-shilling pieces.

No. 182. Pay for six weeks and three days' board at half a crown a day, and find the change out of a ten-pound note.

No. 183. Cider is made from apples. Herefordshire and Devonshire are famous cider counties. Pay for a hoghead (wine measure) at sixteen-pence a gallon, and find the change out of four guineas.

No. 184. What is the expence of travelling from Kensington to Worcester in a post-chaise (the distance being 108 miles) at 15d. a mile, including six half crowns to the drivers, half a guinea turnpikes, and twice the latter sum in refreshments on the road?

No. 185. Artichokes were first introduced into England about the year 1660. Pay for three dozen and a half at 2d. $\frac{1}{2}$. each, and find the change out of two seven-shilling pieces.

No. 186. Tiles are thin plates of clay, chiefly used in covering houses. With one of these Pyrrhus, king of Epirus, was killed, at Argos in the Morea, by a woman. Pay for three dozen and a half, at seven farthings each, and find the change out of an angel.

No. 187. Uxbridge, in Middlesex, has been long famous for rolls. Otway, the poet, is said to have been

* Melons, eaten after supper, caused the indigestion that proved fatal to George I. who expired in his carriage on the 21st of June 1727, O. S. at a short distance from Osnaburgh in Germany.

choked by swallowing a roll too hastily*. Pay for twelve dozen at $1d. \frac{1}{2}$. each roll, and find the change out of a one-pound note.

No. 188. French prunes are brought from Agen, at no great distance from Bourdeaux. Pay for a box containing 25 lb at $16d.$ a lb, and find the change out of five seven-shilling pieces.

No. 189. Le Mans, in the department of Sarthe, France, is noted for wax candles. Pay for three dozen at $3s. 6d.$ a pound, and find the change out of six guineas.

No. 190. Lampreys, a kind of eel, are caught in the Severn, near Gloucester. Henry I. died in consequence of eating too freely of them. Pay for a dozen and one third of a dozen of potted lampreys at three half crowns a pot, and find the change out of six one-pound notes.

No. 191. Pay for a firkin of Cambridge butter at $9d. \frac{1}{2}$. a lb, and find the change out of two guineas and a half.

No. 192. Veal is the flesh of a calf. Many calves are bred in Essex. Pay for a leg of veal, weighing $16\frac{1}{2}$ lb at $11d. \frac{1}{2}$ a lb, and find the change out of a guinea.

No. 193. Tewkesbury, in Gloucestershire, was formerly noted for mustard; Durham is now famous for that commodity. Pay for a pound at $2d. \frac{1}{2}$. an ounce, and find the change out of a crown.

No. 194. Pay for lodgings through the month of February at eighteen pence a night, and find the change out of two guineas.

N. B. Put a receipt to this sum.

No. 195. Pay for a stone of Gloucestershire cheese at $9d. \frac{1}{2}$. a lb; a stone of meat at $11d. \frac{1}{4}$. a lb; and a peck of Droitwich salt at $2d. \frac{1}{4}$. a lb; and find the change out of two guineas.

No. 196. Find the value of a quire of Paper (24 sheets) at three farthings a sheet.

No. 197. Find the value of a ream of Buckinghamshire paper (20 quires) at $1s. 9d. \frac{1}{2}$. a quire.

No. 198. Pay for $4\frac{1}{2}$ stone of meat at $9d. \frac{1}{4}$. a lb, and find the change out of a guinea and a half.

* See Chron. and Biog. Exer.

N. B. Make a bill of this sum, and put a receipt to it.

No. 199. Horsham, in Suffex, and Dorking, in Surrey, are famous for fowls. If five dozen were bought for $3\frac{1}{2}$ guineas, and the expence of bringing them to London was a third of the purchase-money, what would be gained by selling them at the eighth part of a pound sterling each?

No. 200. Pay for the eighth part of an hundred weight of sugar at as many pence per pound as there are days in a week, and find the change out of as many shillings as there are calendar months in a year.

No. 201. What is to be paid for the washing of a dozen shirts at $4d. \frac{1}{4}$. each, twice the number of pocket handkerchiefs at a halfpenny each, and three times the number of pairs of stockings at $1d. \frac{1}{4}$. each.

N. B. Make a bill of this sum, and put a receipt to it.

No. 202. Dr. Johnson received one thousand five hundred and seventy-five pounds sterling for his admirable Dictionary: deduct a farthing from this sum, and multiply the remainder by as many years as all the kings of the illustrious House of Brunswick have reigned years over England to the year 1810.

RULE III. When the number of articles whose price is required, cannot be obtained by the multiplication of any two figures into each other, as in the following questions, find the nearest to it, which can be so produced, and multiply the given price by the component parts, as before; then multiply the top line of the sum (which is the value of one yard, &c) by the deficiency, which, added to the preceding part of the operation, will give the value of the whole. The $\frac{1}{4}$, $\frac{1}{2}$, and $\frac{3}{4}$, must be taken as so many parts of the top line, or price of one yard, pound, &c. and added to the last line of the sum.

No. 203. MILLET.—An esculent grain, chiefly used among us in puddings; but the italians make loaves and cakes of it, which, when eaten hot, are much esteemed for their sweetness. It grows naturally in India, whence

whence we are furnished with it annually; but it is cultivated in many parts of Europe. Millet is refrigerating and drying, difficult of digestion, and generates flatulencies. It has, however, some good qualities. A decoction of this grain, with figs and raisins, is said to be an excellent sudorific and diuretic; and millet seeds are of extraordinary service in diseases of the lungs*.

What are 58 pounds and $\frac{1}{4}$ of millet worth at 6d. $\frac{1}{4}$ per pound? *Ans.* £1 12s. 9d.

No. 204. VIRTUE ALONE IS TRUE NOBILITY. —It was well observed by the emperor Maximilian, to a man who requested to be ennobled, "that though he could give riches and a title, he could not make him noble." The genuine idea of nobility contains in it, says Dr. Knox, generosity, courage, spirit, and benevolence, the qualities of a warm and open heart, totally unconnected with the accidental advantages of riches and honour; and according to this definition, there is many a nobleman even at the loom, at the plough, and in the shop; and many more in the middle ranks of mixed society.

"The pride of family is all a cheat,
"The virtuous only are the truly great."

Who'er amidst the sons
Of reason, valour, liberty, and virtue,
Displays distinguish'd merit; he's a noble
Of Nature's own creating.

THOMSON.

Of all the effects of man's capricious admiration, continues our ingenious author, there are few less rational, than the preference of illustrious descent to personal merit; of diseased and degenerate nobility, to health, to

* The Sarmatians made a pap of millet, mingled with mare's milk, or blood. In the wealth of modern husbandry, our millet feeds poultry, and not heroes.

GIBSON'S Decline, &c. vol. iv. p. 219.

Sarmatia was an extensive country in the north of Europe and Asia. See Exer. on the Globes.

courage,

courage, to learning, and to virtue. It may, therefore, be rationally concluded, that in proportion as the world becomes more enlightened, the exorbitant value, which has been placed on things not really valuable, will decrease, and that mankind will at length bear their willing testimony to the truth of Pope's well-known lines, that

Worth makes the man, and want of it the fellow;
The rest is all but leather or prunello*.

Prunello is a kind of stuff, of which the gowns of clergymen are made.

What is the value of $65\frac{1}{2}$ yards of prunello at $5s. 3d. \frac{1}{4}$. per yard? *Ans.* £17 5s. 2d. $\frac{1}{4}$.

No. 205. MITHRIDATE.—This is an antidote, in form of an electuary; serving either as a remedy, or a preservative against poisons. It is one of the capital medicines of the shops, consisting of a vast number of ingredients, and is accounted a cordial, opiate, sudorific, and alexipharmic. It takes its name from its inventor, Mithridates, king of Pontus, who is reported to have so fortified his body against poisons, with antidotes and preservatives, that when he had a mind to dispatch himself, he could not find any poison that would take effect. The recipe for making it was found in his cabinet, written with his own hand, and was carried to Rome by Pompey. See Cherries, Index.

What are $74\frac{1}{2}$ ounces of mithridate worth at $4d. \frac{1}{4}$. per ounce? *Ans.* £1 6s. 5d. $\frac{1}{4}$.

No. 206. MOHAIR.—Mohair, in commerce, is thread or stuff made of the hair of the Angora goat. See Camlet, *Quef.* 148, p. 78.

What is the value of $89\frac{1}{2}$ dozen of mohair buttons at $1s. 1d. \frac{1}{2}$. per dozen? *Ans.* £5 0s. 4d. $\frac{1}{4}$.

No. 207. MUSK.—A dry, light, and friable substance, of a dark blackish colour, feeling somewhat

* See Potatoes, Index;

smooth, or unctuous. Its smell is too strong to be agreeable in any large quantity; on which account it is moderated by the mixture of some other perfume. It is brought from the East-Indies, chiefly from Bantam in the island of Java, some from Tonquin and China; but that in most esteem comes from Tibet. The animal which produces it is of a very singular kind, not agreeing with any established genus: it is of the size of a common goat but taller. The bag which contains the musk is situated under the creature's belly, and about the bigness of a hen's egg. These animals inhabit the woods and forests, where the natives hunt them down.

Musk is of considerable use among the perfumers and confectioners; and is also employed medicinally in spasmodic disorders, fevers, &c. and particularly in convulsive complaints. The effects of musk are, ease from pain, quiet sleep, and a copious diaphoresis. It does not, like opium, leave behind it any stupor or languidness.

What are $95\frac{1}{2}$ ounces of musk worth at £2 2s. 3d. per ounce? *Ans.* £201 14s. 10d. $\frac{1}{2}$.

No. 208. MYRRH.—A kind of gum resin, issuing, by incision, and sometimes spontaneously, from a tree growing in Arabia, Egypt, and especially in Abyssinia. It is sent to us in loose granules from the size of a pepper-corn to that of a walnut, of a reddish brown colour, with more or less of an admixture of yellow; its taste is bitter and acrid, with a peculiar aromatic flavour, but very nauseous: its smell is strong but not disagreeable. Our myrrh is the very drug known by the ancients under the same name. It enters into a great number of medicinal compositions: it is a warm corroborant, deobstruent, and antiseptic, and is often employed externally as a vulnerary. The bitterness of myrrh renders it good for the stomach and against worms; and it is chewed to prevent infection from contagious diseases. It makes the principal ingredient in embalming*.

What

* When Nicodemus came with Joseph of Arimathea, to pay the last duties to our Saviour after his crucifixion, he brought a mixture of

What are $105\frac{1}{4}$ ounces of myrrh worth at *1s. 6d.* $\frac{1}{2}$ per ounce? *Ans.* £5 10s. 1d. $\frac{1}{4}$.

No. 209. OLIVES.—Olives are the fruit of a tree which is the emblem of peace.

To thee, the heavens, in thy nativity,
Adjug'd an olive branch and laurel * crown,
As likely to be blest'd in peace and war.

SHAKSPEARE.

Pickled

of myrrh and aloes to embalm his body. See John xix. 38, &c. and Chron. and Biog. Exer. 4th edit. art. Nicodemus and Joseph of Arimathea.

Aloes is a term applied to two different things. 1st. Aloes is a precious wood used in the East for perfumes, of which the best sort is of higher price than gold, and was the most valuable present given by the king of Siam, in 1686, to the king of France. The best of this kind grows in the islands of Ceylon †, and Sumatra in Asia, and near Cape Comorin in Hindostan. The aloes of Syria, Rhodes, and Candia, called aspalathus. is a shrub full of thorns; the wood is used by perfumers, after they have taken off the bark, to give consistency to their perfumes.

2d. Aloes is a plant or tree not uncommon among us, particularly in the botanical gardens near London. From this sort of plant was extracted the drug called aloes, which was a very bitter liquor used in embalming, to prevent putrefaction. The aloes of Socotra, or Socotora, an island in the Arabian sea, on the coast of Africa, are the most excellent: from their leaves is extracted a medicinal juice distinguished into Socotorine and Cabaline, or horse aloes: the first is so called from Socotora; the second, because, being coarser, it ought to be confined to the use of farriers. It is a warm and strong cathartick.

* The laurel, meed of mighty conquerors,
And poets sage.

SPENSER.

The laurus, laurel, or bay tree, was sacred to Apollo, the patron of the wits; and it was also the meed of conquerors and heroic persons. Its aromatic emissions were formerly in high repute for clearing the air, and resisting contagion; on which account the younger Pliny is supposed to have been so often at his beloved Laurentium.

In the Pythian games, instituted in honour of Apollo, the crown worn by the victor was made of laurel. Eminent poets, both ancient

† See Exer. on the Globes, 4th edit.

and

Pickled olives are grateful to the stomach, and are supposed to promote appetite and digestion : the ripe ones are more eaten among the Greeks, forming a considerable part of their food, especially in Lent. There are three kinds of olives frequently sold, different in size and goodness : viz. those of Verona, in the northern part of Italy, those of Spain, and those of the southern part of France. The olives, while on the tree, are intolerably bitter ; that grateful taste, which procures them admittance at the richest tables, is given to them in pickling.

We cannot conclude this subject without observing, that the humane law of Moses permitted the poor to share a remnant of the olive-berries. See Deut. xxiv. 20. With the same benevolent intention are the following impressive lines of an admired poet addressed to the British husbandmen :

Be not too narrow, husbandmen ! but fling
From the full sheaf, with charitable stealth,

and modern, have likewise been crowned with laurel. Ariosto received this honour from the Emperor Charles V.

In the Isthmian games (so called because they were celebrated on the Isthmus of Corinth), the crown was made of pine-tree ; in the Nemæan, of smalage, or Macedonian parsley ; and in the Olympic games, sacred to Jupiter, of wild olives. These last were the most splendid and renowned of all the Grecian solemnities*. To excite the emulation of the competitors, by placing in their view the object of their ambition, these crowns were laid upon a tripod or table, which during the game was brought out and placed in the middle of the stadium, the place where some of these exercises were performed. There are frequent allusions to the above games in the sacred writings.

The civic crown, anciently bestowed by the Romans on those who saved the life of a fellow-citizen in a battle, or an assault, was made of oaken leaves. The civic crown was exceedingly esteemed ; and was even given as an honour to Augustus ; who on this occasion struck coins with this device, " Ob civis servatos." It was also granted to Cicero, after his discovery of Catiline's conspiracy.

With equal rays immortal Tully shone :
Behind Rôme's genius waits with civic crowns,
And the great father of his country owns.

* See Quæst. 1. p. 2.

The liberal handful. Think, oh! grateful, think,
How good the God of harvest is to you,
Who pours abundance o'er your flowing fields.

THOMSON.

What are 112 pints of olives worth at 1s. 7d. $\frac{1}{2}$. per pint? *Auf.* £9 2s. 0d.

No. 210. OIL OF OLIVES.—Olives yield an oil which is the most popular, and most universal of all others; being that chiefly used in medicine, in foods, salads, and in various manufactures. It is drawn from the fruit by presses, or mills made for the purpose. The consumption of this oil is incredible; and it is reputed one of the most useful things in the whole world. The sweetest, and what we most esteem, comes from the southern part of France; but vast quantities are imported from Florence and Lucca*. At this last place Mrs. Piozzi mentions having eaten some salad-oil of a green colour, like Irish usquebaugh, than which, she observes, nothing was ever more excellent†.

It was the custom of the Jews to anoint with oil persons appointed to high offices, as the priests and kings. See Psalm cxxxiii. 2. 1 Sam. x. 1. xvi. 13. The anointing with this liquid seems also to have been reckoned a necessary ingredient in a festival dress. See Ruth iii. 3. The Jews moreover seem to have regarded oil as a more efficacious and sovereign remedy than any other, for mitigating or extirpating the various disorders of the human frame‡. See Mark vi. 13. James v. 14. and Dr. Harwood's *Introd.* vol. ii. p. 126.

* The oil of Venafro near Capua, in Naples, Italy, was very famous in ancient times, as we learn from an eminent poet:

Olives grown the fruitful soil,
Nor yield to the Venafrian oil.

CREECH'S HORACE.

† *Journey*, vol. i. p. 341.

‡ Olive-oil rubbed upon a wound occasioned by the bite of a viper, and also taken internally, is a certain remedy: on which account the viper-catchers have always a bottle of oil with them in case of need.

Washing

Washing the feet, and anointing the head with oil, were the first civilities that were paid among the Jews on entering a friend's house*. After the slave† had performed the first office, the heads of the guests were anointed with oil, and their hair drenched in aromatic unguents‡.

St. John the Evangelist was, it is asserted, cast into a cauldron of boiling oil at Rome, by command of the Emperor Domitian; by which, it is said, instead of being destroyed, he was sensibly refreshed. He was afterwards banished to the isle of Patmos, now called Palmosa §, in the Archipelago, and died at Ephesus||.

Oil, among its other good qualities, has the singular property of filling the surface of the water, when it is agitated with waves. This extraordinary effect is mentioned by Pliny, and confirmed by experiments made by the celebrated Dr. Franklin :

Oil on the ocean's troubled waters spread,
Smooths the rough billow to a level bed.

HAYLEY.

What are 118 flasks of Florence oil worth at 2s. 9d. $\frac{1}{4}$. per flask? *Ans.* £16 11s. 10d. $\frac{1}{4}$.

No. 211. SPERMACEI OIL.—This is the oil of a particular kind of whale; distinguished from the common whale by its having a bunch on its back. The oil is found in a large trunk, four or five feet deep, and ten or twelve long, filling almost the whole cavity of the head, and seeming to supply the office of brain and cerebellum. The oil drawn from the other parts of the fish now under consideration, is of nearly three times the

* See Psalm xxiii. 5. and civ. 15.

† C'étoit ordinairement les esclaves et les inferieurs que rendoient cette office; mais Jesus Christ le rendi à ses disciples, pour donner un exemple d'humilité et de charité.

LENFANT.

‡ See Mark xiv. 3. and Luke vii. 44—46.

§ See Wells's Geo. of the New Test. part ii. p. 128, and Rev. i. 9.

|| See Calmet's Dict. of the Bible.—Doddridge's Fam. Expos. vol. ii. p. 276.—and Chron. and Biog. Exer. 4th edit.

value of the common black whale oil. It is employed in lighting chamber lamps, &c. The common whale oil, as well as that of some other fish, is used for street lamps, &c.

What is the value of $125\frac{1}{2}$ quarts of spermaceti oil at $1s. 4d.$ per quart? *Ans.* £8 7s. 0d.

No. 212. SPERMACETI.—This is a whitish, flaky, unctuous substance, prepared from spermaceti oil. It is of great use in medicine, being employed in inward hurts*, bruises, &c. and is also applied externally; but its greatest property, and that which makes it so much in vogue in many places, is its softening the skin. Hence it is a component part of most pastes, cosmetics, &c. Spermaceti candles are of modern manufacture: they are made smooth, with a fine gloss, free from rings and scars, superior to the finest wax candles in colour and lustre; and, when genuine, leave no spot or stain on the finest silk, cloth, or linen.

What are $129\frac{1}{2}$ pounds of spermaceti candles worth at $3s. 4d. \frac{1}{4}.$ per pound? *Ans.* £21 19s. 9d.

No. 213. OPIUM.—A narcotic, gummy-resinous juice, drawn from the head of the white poppy, and afterwards inspissated. It is brought from Natolia in Turkey in Asia, Egypt, and the East-Indies, in flat cakes or irregular masses, from four to about sixteen ounces in weight, covered with leaves, and generally impure.

It has been observed, by an intelligent medical writer, that though opium, taken in too large quantity, renders the nervous system so totally insensible, and produces such general relaxations, that lethargy, convulsions, and death, are the consequences: yet, in a variety of cases, given judiciously, it is one of our most noble remedies. It not only alleviates pain, procures sleep, and takes off spasmodic affections, when administered internally; but when applied externally, as in fomentations, cataplasms,

* The sovereign'st thing on earth is pharmacy for an inward bruise.

lotions, liniments, or injections, it produces the same consequences.

Mr. Brookes, in his observations on Italy, has given a very favourable account of the beneficial effects of opium in the following lines :

The old, the young, the rich, the poor,
Will oft from it receive a cure,
While other drugs prove vain ;
The tortur'd limb, the aching head,
Or victims that disease has made,
Will happy ease obtain.

What are $136\frac{1}{2}$ ounces of opium worth at 1s. 11d. $\frac{1}{2}$. per ounce? *Ans.* £13 7s. 9d. $\frac{1}{2}$.

No. 214. ORANGE.—The fruit of a tree of the same name. Those in common use with us are the Seville and China oranges. The flowers of the Seville orange are highly odoriferous, and very justly esteemed one of the finest perfumes :

The punie granate op'd its rose-like flow'rs ;
The orange breath'd its aromatic pow'rs.

HARTE.

The juice of these oranges is a pleasant acid, of great use in inflammatory and putrid disorders, both acute and chronic ; and the juice of the China, or sweet orange, is an useful refrigerant in inflammatory dispositions, and an excellent antiseptic in scorbutic and putrid disorders. When Commodore Anson sailed round the world, his men were surprisngly recovered from the scurvy, by the oranges which they found at the island of Tinian, one of the Ladrone islands in Asia. See Anson's Voy. Index.

Oranges are ordinarily brought from Nice and Genoa in Italy, the isles of the Hieres, and the adjacent parts of the south of France, Portugal, the American islands, and even China and the coasts of India. The sweet, or China orange, was first brought into Europe from that country by the Portuguese ; and it is asserted, that the identical tree, whence all the European orange-trees of this sort were produced, is still preserved at Lisbon, in

the house of the Count S. Laurent. Those most esteemed, and which are made presents of as rarities in India, are no bigger than a billiard-ball. The Maltese oranges are, by some, said to be the finest in the world. See Chron. and Biog. Exer. art. Malta.

What are 140 chests of oranges worth at £3 15s. 6d. per chest? *Ans.* £528 10s.

No. 215. LEMON.—A fruit brought from Spain and Portugal in great plenty. They are cooling and grateful to the stomach, quenching thirst, and increasing appetite; useful in fevers, as well common as malignant and pestilential. The yellow rind is a grateful aromatic, and commonly used in stomachic tinctures and infusions, and for rendering other medicines acceptable to the palate and stomach.

Bear me, Pomona!* to thy citron groves!
To where the lemon and the piercing lime,
With the deep orange, glowing through the green,
Their lighter glories blend.

THOMSON.

The citron is distinguished from the lemon, in that it is bigger, and its pulp firmer. The distillers, confectioners, perfumers, &c. apply citrons to various purposes, and obtain from them essences, oils, confections, waters, &c. Genoa is the greatest nursery which supplies the several parts of Europe with this, as well as with the orange and lemon trees.

The lime is by some deemed a species of lemon, by others not. It is a much smaller fruit, and in the West-

* Pomona, in fabulous history, is the tuteladeity of orchards and fruit trees. Hence Philipst, having written a poem entitled "Cyder," is styled "Pomona's Bard."

Vertumnus, in mythology, is also said to have presided over orchards and gardens. He assumed various forms in order to obtain the love of Pomona; viz. a labourer, reaper, vine-dresser, and old woman, to represent the four seasons of the year. The commentators on Ovid, (who has described his metamorphoses), say, that he was an ancient king, of Etruria, in Italy, who, by his diligent and successful cultivation of fruits and gardens, obtained the honour of being ranked among the gods.

† See Chron. and Biog. Exer.

Indies is greatly preferred to the lemon; the juice being reckoned wholesomer, and the acid more agreeable to the palate. It is not often brought to England, nor is this fruit much cultivated in Europe.

What are $146\frac{1}{2}$ dozen of lemons worth at $11d. \frac{1}{2}$. per dozen? *Ans.* £7 3s. 5d. $\frac{1}{4}$.

No. 216. PAPER.—Paper is a thin flexible leaf, usually white, artificially prepared, and chiefly used to write or print upon with ink. Various are the materials on which mankind in different ages and countries have contrived to write their sentiments; as on stones, bricks, the leaves of herbs and trees, and their rinds or barks; also on tables of wood, wax, and ivory; to which may be added plates of lead, linen rolls, &c. At length the Egyptian papyrus was invented; then parchment, then cotton paper, and lastly, the common, or linen paper. Paper is chiefly made among us of linen, or hempen rags, beaten to a pulp in water, and moulded into square sheets of the thickness required. But it may also be made of nettles, hay, turnips, parsnips, colewort-leaves, asbestos, or any thing that is fibrous; nay, it may be made of white woollen rags; though this would not serve for writing, because of the hairiness. The Egyptian paper, which was principally used among the ancients, was made of a rush called Papyrus, whence the word paper is derived. It grew principally about the banks of the Nile in Egypt; and in a basket made of this species of rushes, Moses, when a child, was exposed on the border of that celebrated river*. Besides paper, they made sails, ropes, and other naval rigging, as also mats, blankets, cloths, and even boats, of the stalk of the papyrus. Slips of the talipot leaf, strung in the form of a file, usually supply the want of paper in the island of Ceylon†. The first paper-mill in England was erected at Dartford in the year 1588, by a High-German, called Spilman, jeweller to the queen. Nothing, however, but the brown coarse sort of paper was made in this country till about the year 1690, when the French Protestant refugees settled in England‡.

* See Moses, Index.

† See Percival's Account of Ceylon.

‡ See Chron. and Biog. Exer. art. Nantz.

and our own paper-makers began to make white writing and printing paper; and the perfection to which it is since brought is said to produce a saving to England of much more than £100,000, which was paid annually to France for this article. When and by whom linen-paper was invented, has been long and warmly contested among the learned; but seemingly with little success, as nothing conclusive has yet been advanced on the subject. Some say, that the Chinese have the best title to the invention; who for many ages have made paper much after the same manner; and even in some provinces of the same materials, viz. hēmp, &c.

What are 151 reams of paper worth at 12s. 6d. $\frac{1}{2}$. per ream? *Ans.* £94 13s. 9d. $\frac{1}{2}$.

No. 217. PARCHMENT AND VELLUM.—Parchment, sheep or goats skin prepared after a peculiar manner, which renders it proper for several uses; particularly for writing on, and for the covering of books, &c. The word is derived from the Latin Pergamena, the ancient name of this manufacture; which it is said to have taken from the city Pergamos; and to Eumenes, king of that city, its invention is usually ascribed; though, in reality, that prince appears rather to have been the improver than the inventor of parchment: for the Persians, and others, are said to have written all their records on skins long before Eumenes's time. That called virgin parchment is a thinner and finer sort than the rest; and is used for fans, &c. and made of the skin of an abortive lamb or kid. What we call vellum is only parchment made of the skins of abortive calves, or, at least, of sucking calves; it is finer, whiter, and smoother, than the common parchment. These articles constitute a considerable part of the French commerce, being made in most of their cities; and, besides the consumption at home, they send vast quantities abroad, particularly to England, Flanders, Holland, Spain, and Portugal.

What are 156 skins of parchment worth at 13s. 8d. $\frac{1}{2}$. per skin? *Ans.* £106 18s. 6d.

RULE IV. When the proposed number of yards, pounds, &c. exceeds 156, multiply the given price by

10, and the result of that operation by 10, which will give the value of 100; then multiply the second line or product of 10, by the figure in the ten's place, and put the result under the value of 100; lastly, multiply the given price by the figure in the unit's place, and set the result under the two preceding products. The several sums, added together, will be the answer to the question.

No. 218. **PEPPER.**—Pepper is the product of a shrub, growing in several parts of the East-Indies, chiefly Java, Sumatra, Malacca, and the coasts of Malabar. Black pepper is an aromatic fruit of a hot dry quality, chiefly used in the seasoning of meats. White pepper is the fruit of the same plant with the black, and prepared from it by taking off the outer bark. Pepper, which is sold ground, is very apt to be sophisticated, the black with burnt-crust of bread, &c. the white with beaten rice.

Long pepper is thus denominated from its form, which is cylindrical, about an inch and an half in length, and of the thickness of a large goose quill. It is of the same genus as the black pepper, but is hotter and more pungent; its chief use is in medicine, where it enters several Galenical* compositions.

Guinea pepper is a native of the East and West-Indies, and raised in some of our gardens. It is of a red colour, and of an extremely pungent and acrimonious taste. It is sometimes given, in small quantities, as one of the highest stimulants; but its principal use is at table. A species of this pepper is the basis of the powder brought from the West-Indies under the name of Cayenne pepper.

Jamaica pepper is the fruit of a tree growing plentifully in Jamaica, and other American islands. It is a real aromatic, and may supply the defect of cloves, nutmegs, and cinnamon; whence it is called by the English, all-spice, and sometimes pimento. This pepper is accounted

* Galen was a celebrated physician, born at Pergamus, where he died A. D. 193, in the 90th year of his age.

Hippocrates was another physician of so great celebrity, that he is sometimes styled the Father of Physic, and the Prince of Physicians. He was born in Cos, one of the Cyclades; a cluster of islands in the Archipelago. He died 361 years B. C. aged 99.

the best and most temperate, mild, and innocent, of common spices. It surpasses most of the East-India aromatics in promoting the digestion of meat, attenuating tough humours, moderately heating, strengthening the stomach, expelling wind, and doing those friendly offices to the bowels which we generally expect from spices.

What are 164 pounds of pepper worth at 2s. 3d. $\frac{1}{4}$. per pound? *Ans.* £18 19s. 3d.

No. 219. POTATOES.—Potatoes are the most common esculent root now in use among us; though little more than a century ago they were confined to the gardens of the curious, and presented as a rarity. They form the principal food of the common people in some parts of Ireland:

Leeks to the Welsh, to Dutchmen butter's dear;
Of Irish swains potatoes are the cheer*.

GAY.

Potatoes were originally brought to us from Santa Fee, New Mexico, North America, and, as has been asserted,

* Every nation almost has its peculiarities in the choice of food; rejecting some and preferring others. The Abyssinians, according to Mr. Bruce, cut a slice from a *living* ox †, and esteem it one of their chief delicacies. The Tartars think horse-flesh their greatest dainty. The Greenlander and Samoiede think train oil the finest of all sauces to their dried fish or flesh, and are able to digest a full meal of whale's fat. Cats are eaten in Spain; inasmuch, that their mistresses are compelled to confine these animals, lest they should be stolen for human food ‡. Some nations are fond of dogs, particularly fat ones, as a food. The French have a great partiality for frogs; a dish of snails was very common at a Roman table; and in some parts of Switzerland this food was in high repute in the time of Addison. See his *Travels*, p. 364. On the contrary, the highlanders of Scotland abhor eels and lampreys; and it is asserted, that the Neapolitans once refused to eat potatoes during a famine.

† Do not we eat raw oysters within a moment of their being separated from the shell? And do not we roast both them and lobsters whilst alive; the barbarity of which practice seems somewhat similar to that of the Abyssinians? Do not fish-women and cooks skin eels whilst alive? And do not epicures crimp fish for the gratifying of their appetites?

‡ See Mr. Southey's *Travels*, p. 113, 114, 116.

by

by Sir Francis Drake, in the year 1586. Others mention the introduction of them into our country about 1623; whilst others affirm that they were first cultivated in Ireland, about Youghall, in the county of Cork, by Sir Walter Raleigh*, in 1610, and that they were not introduced into England till the year 1650. Peru, in South America, is the natural soil of potatoes, particularly the fertile province of Quito, whence they were transplanted to other parts of America. It is the root only of the potato-plant that is eatable †.

There are two varieties in general use; one with a white, and the other with a red root. And besides these there is a new kind, first brought from America, which that "patriot of every clime," the late Mr. Howard, cultivated in 1765 at Cardington, near Bedford. They were also propagated in some of the adjacent counties. Many of these potatoes weigh four or five pounds each; and hogs and cattle are found to prefer them to the common sort. They are moreover deemed more nutritive than others; being more solid and sweet, and containing more farina or flour. As an esculent plant, they appear also worthy of cultivation; being, it is said, when well boiled, equal, and when roasted, preferable, to the common sort.

* Sir Walter Raleigh, one of the greatest ornaments of his country, was accused of being concerned in a conspiracy; and after having being confined twelve years in the Tower, where he wrote several valuable performances, which are still in high esteem, was beheaded in Old Palace-Yard, October 29, 1618, in the reign of James I. and was interred the same day in St. Margaret's church, Westminster. He had a house at Islington, which is now the Pyed-Bull inn.

† Hence persons who pride themselves, not on their personal conduct, but on a long line of ancestry, have been ludicrously, but justly, compared to this plant, the best part of which is under ground. For, as Ovid has well remarked, birth and ancestry, and that which we have not ourselves achieved, we can scarcely call our own.

"Wherefore of noble birth should mortals boast,
 "Since from the self-same stock all races spring?
 "By vice alone man's dignity is lost:
 "Virtue alone ennobles clown and king ||."

‡ See No. 204, p. 93, and Chron. and Biog. Exer. 4th edit. art. Prior.

Immense quantities of potatoes are raised in Lancashire* for exportation. Mr. Pennant says, that 30 or 40,000 bushels are annually exported to the Mediterranean sea from the environs of Warrington. A single acre of land sometimes produces 450 bushels †.

What are 179 bushels of potatoes worth at 1s. 2d. per bushel? *Ans.* £10 8s. 10d.

No. 220. RAISINS.—Raisins are grapes prepared by drying them in the sun, or in the air; to fit them for keeping, and for some medical purposes. Raisins of the sun are a kind of raisins brought from Spain, of a reddish or bluish colour, feeded, and very agreeable to eat. There are various other sorts, denominated either from the place where they grow, or the kind of grape, &c. The finest and best raisins are those called in some places Damascus raisins. These are distinguishable from the others by their largeness and figure; they

* Lancashire is known to excel in the quality of this vegetable; and Formby, a few miles north of Liverpool †, is remarkable for producing the best in the county. It is known that potatoes were introduced into England from Ireland; and tradition says, that a vessel freighted with potatoes from that country to London, being driven on shore at Formby, by stress of weather, occasioned them to be first planted at that place. The real want of bread can never be felt while this charming, wholesome, and productive vegetable is freely cultivated. When of a mealy quality, it is found, from experience, to be better adapted to a weak stomach, and to children and young persons, than bread. LIVERPOOL GUIDE, written by a medical gentleman of the name of Moss. Page 166. Edit. 4th.

† The introduction of potatoes into New Zealand has saved many lives, for the natives give this root a decided preference to human flesh, under every circumstance, except that of wreaking vengeance on a chief of the foe, whom they have taken in battle §. Capt. Cook, in 1773, planted several spots of ground in this island with European garden-seeds; and, in 1777, he found a few fine potatoes, greatly improved by change of soil. New Zealand is situated in the Australasia, in the South Pacific Ocean. See Bourn's Gaz.

‡ See Cary's English Atlas.

§ Savge's Account of New Zealand.

are flat, and wrinkled on the surface; soft and juicy within, near an inch long, and semipellucid, when held against a good light: they have a sweet, agreeable, and vinous taste.

The common raisins are the fruit of several species of grapes, which are better or worse, according as they have been more or less carefully cured. The raisins of the sun, or jar-raisins, so called, because they are imported in jars, are all dried by the heat of the sun; and these are the sorts used in medicine. All kinds of raisins have much the same virtues; they are nutritive and balsamic; but they are subject to fermentation with juices of any kind, and hence, when eaten immoderately, they often bring on colics: They are not at present much regarded in medicine, though they are used in some compositions, particularly in pectoral decoctions, and other medicines of that intention.

What are 189 pounds of raisins worth at 10*d.* $\frac{1}{4}$. per pound? *Ans.* £8 9*s.* 3*d.* $\frac{1}{4}$.

No. 221. RHUBARB.—Rhubarb is a native plant of China and Siberia; but now propagated in many of our gardens, and may probably succeed so well here in time, as that a sufficient quantity of this valuable drug may be raised, to supply our consumption. Mr. Bell informs us, in his travels, that the best rhubarb grows in that part of Eastern Tartary which is situated between Asiatic Russia and China. Two sorts of rhubarb are met with in the shops. The first is imported from Turkey and Russia, in roundish pieces, freed from the bark, with a hole through the middle of each, externally of a yellow colour, internally variegated with lively reddish streaks. The other, which is less esteemed, comes immediately from the East-Indies, in longish pieces, harder, heavier, and more compact than the foregoing. The taste of rhubarb is sub-acrid, bitterish, and somewhat styptic; the smell is highly aromatic. Rhubarb is a mild cathartic, and commonly considered as one of the safest and most innocent substances of this class. It has also a mild astringent virtue, is found to strengthen the tone of the stomach, and is frequently given with a view to this corroborating virtue.

What

What are $195\frac{1}{2}$ ounces of rhubarb worth at $1s. 3d. \frac{1}{2}$. per ounce? *Ans.* £ 12 16s. 10d. $\frac{1}{2}$.

NO. 222. SHAULS.—Shaul is an article of female dress, much prized in the East, and now well known in England. As the shauls all came from Caffemire, or Cachemir, it was generally concluded, that the materials from which they were fabricated were of the growth of that country. It was said, that they were made of the hair of a particular goat, and the fine under-hair from a camel's breast; but it is now certainly known to be the produce of a Thibet sheep. Bernier relates, that, in his time, shauls made for the great Omrahs of the Thibetian wool, cost a hundred and fifty rupees; whereas those made of the wool of the country never cost more than fifty.

Shauls have been lately made in our own country, particularly at Norwich.

What are 197 Norwich shauls worth at £ 1 18s. each? *Ans.* £ 374 6s.

NO. 223. SPECTACLES.—Spectacles, an optic machine, consisting of two lenses set in a frame, and applied to the nose, to assist in defects of the organs of sight. Our great dramatic bard, in his enumeration of the different ages of man, observes, that

The sixth age shifts
Into the lean and slipper'd pantaloon,
With spectacles on nose, and pouch on side.

Spectacles were certainly unknown to the ancients. They are generally supposed to have been invented in the thirteenth century, by Alexander de Spina, a monk of Florence, in Italy. Some, however, imagine, that the first hint of their construction and use was derived from the writings of our own countryman, the famous Roger Bacon*.

It

* Olaus Borrichius, a Danish philosopher, asserts, that Roger Bacon discovered all the kinds of glasses now in use, that he knew gunpowder, and had made many other important discoveries, which entitle

It had been long taken for granted, that one of the earliest discoveries which the civilized world owed to the city of Florence was the invention of SPECTACLES; but the opinions were at variance in respect to the person who might claim the glory of this great benefit conferred on humanity; one party ascribing the merit to a Florentine of the name of SPINA*; while the contrary party affirmed, that the real inventor was SALVINO; and Mr. Manni, in his Historical Treatise on Spectacles, has produced the most satisfactory proofs on this subject, and ultimately decided the question in his favour.

What are 199 pairs of spectacles worth at 9s. 11d. per pair? *Ans.* £98 13s. 5d.

RULE V. When the proposed number of yards, pounds, &c. exceeds 199, multiply the value of one hundred by the figure standing in the place of hundreds in the question; and for the tens, units, and fractions, proceed as directed in the preceding sections.

No. 224. SPONGE. — Sponge, improperly written spunge, is a kind of marine substance, found adhering to

entitle him, as he observes, to immortal reputation. And Gerard John Vossius says, that “in the year 1270 flourished in every kind of learning among the English, Roger Bacon, a monk of the Franciscan order, and an Oxford divine; a man of such vast knowledge, that England, nay the whole world besides, had not in this respect his equal, or his second; yet either through the envy or the ignorance of the age in which he lived, he was stigmatized as a magician.” Under this pretext, while at Paris, he was put in prison by order of the pope’s legate. After a long and severe confinement, he was at last, by the interest of several noble persons, set at liberty, returned to England, and died at Oxford in 1292, aged 78, or as others say in 1294 in his 80th year. This wonderful man, who, like a bright star in a dark hemisphere, shone forth the glory of his country, and the pride of human nature, was a native of LINCHESTER, in Somersetshire. See Gunpowder, Index.

* Most writers, however, say that Spina was a native of Pisa: he died in 1313. Salvinus Armatus was a nobleman of Florence, who expired in 1317; and on whose tomb it is inscribed, that he was the inventor of spectacles.

rocks,

rocks, shells, &c. under cover of the sea-water, or on the sides of rocks about the shore.

Naturalists have been much embarrassed to determine, whether to range sponge in the animal, mineral, or vegetable family. Some have imagined it to be a concretion of sea-mud; others have commonly supposed it to be a vegetable production; but it is now allowed to be, like the Coralines, of animal origin; being the fabric and habitation of some species of worm or polype.

The greatest part of our sponges are brought from the Mediterranean, especially from Nicaria, an island near the coast of Asia, and west of Samos. Mr. Savary, in his letters on Greece, mentions Syme, an island north of Rhodes, as famous for sponges. They grow in abundance round the island; and this fishery, he adds, is the only support of its inhabitants. Men, women, and children, all know how to dive, and plunge into the water in search of the only patrimony bestowed on them by nature; for the island, which is only a rock of small extent, extremely stony, produces neither grain nor fruit.

The fine or small sponges are the most esteemed; and usually come to us from Constantinople. Their goodness consists in their being very white and light, and the holes small and close; the larger and coarser come from the coasts of Barbary, particularly about Tunis and Algiers. The sponge is very useful in the arts. In physic it serves to foment parts enflamed. Taken inwardly, it chokes; and is for that reason cut small, and fried or dipped in honey, and given to quadrupeds to kill them; which it seldom fails to do, by swelling, and preventing the passage of the food into the intestines. A sponge applied to bleeding-vessels has been found a very successful method of stopping the effusion of blood. For this purpose a very dry and solid piece, of a cubical or conical form, should be applied in close contact with the vessel, and retained by proper compression; and it will soon adhere with great force. Very large arteries have been prevented from bleeding by this application.

What are 200 pieces of sponge worth at 4d. $\frac{1}{2}$. each?
Ans. £3 19s. 2d.

No. 225. **TAMARINDS.**—Tamarinds are the fruit of the tamarind-tree, which grows in the East and West-Indies. The oriental sort is drier and darker coloured than the occidental, and has more pulp; the former is sometimes preserved without addition, but the latter has always an admixture of sugar. We use tamarinds only in medicine; but the Africans, and the people of many of the oriental nations, where they are common, make them into a sort of confection with sugar, which they eat as a delicacy, and which cools them in the violent heats of their climates. The pulp of tamarinds is an agreeable laxative acid, of common use in inflammatory and putrid disorders, for abating thirst and heat, and correcting putrefaction. This property is noticed by one of our best poets:

Lay me reclin'd
Beneath the spreading tamarind, that shakes,
Fann'd by the breeze, its fever-cooling fruit.

THOMSON.

What are 273½ pounds of tamarinds worth at 1s. 1d. ½ per pound? *Ans.* £15 7s. 4d. ½.

No. 226. **TARTAR.**—Tartar is an acid concrete salt which arises from wines, after complete fermentation; and sticking to the top and sides of the casks, forms a crust, which hardens to the consistence of a stone. The sweet wines afford always less tartar than the sharp ones, and it is also less valuable. The tartar of Rhenish wine is better than that of any other; and, in general, those wines which have the most acid in them, yield the greatest quantity of tartar, and that in the largest crystals. Tartar is white, or red, according to the colour of the wine from which it is produced. That brought from Germany is the best, as being taken out of those enormous tuns, some of which hold a thousand pipes of wine*; so that the salt has time to come to its consistence, which is one of the chief qualities to be regarded in Tartar.

* See Nos. 469, 470, and 471.

That from Montpellier is next in order; then that of Lyons, and Paris.

The medicinal characters of pure tartar are its acidity and laxative power. In doses of half a dram, it is a mild, cooling aperient; and six or eight drams prove moderately cathartic. Cream of tartar is reputed a great sweetener of the blood; for which some take it in whey or water-gruel in the spring time, to the quantity of half an ounce every morning, for three or four weeks. Emetic tartar is formed of the acid of tartar, combined with the metallic part of antimony, and is the best and most used of all the emetic preparations of antimony.

Tartar is moreover of considerable use among dyers, as it serves to dispose the stuffs to take their colours the better.

What are 299 $\frac{1}{2}$ ounces of cream of tartar worth at 2d. $\frac{1}{2}$. per ounce? *Ans.* £3 2s. 4d. $\frac{1}{2}$.

No. 227. NEWS-PAPERS.—News-Papers are printed papers, which give an account of the transactions of the present times, either relative to our own country, or to foreign nations. The first printed news-paper that appeared in the world, was published in England*. In the British Museum, there are several news-papers, which were printed while the Spanish Armada was in the English channel, during the year 1588†. In that year a news-paper was published by Christopher Barker, printer to Queen Elizabeth, entitled, “The English Mercurie.” The news-papers were at first occasional, and afterwards weekly. In 1622, Nicholas Butter published in London a weekly news-paper, in 4to. the title of which was, “The certain News of this present Week.” Another weekly paper was published in London, in 4to. in 1626, and said to be printed for Mercurius Britannicus. In a collection of pamphlets, which was accumulated by Mr. Charles Tooker, there were news-papers from 1621 to 1640.

* See Chron. and Biog. Exer. July 23, 1588, 4th. edit.

† See No. 103, p. 61, art. Armada.

Before the execution of Charles I. there had been published more than a hundred news-papers with different titles; and, from that period to the restoration, there were upwards of eighty other news-papers. In the year 1792, there were printed in London twelve daily news-papers, nine evening-papers, and nine weekly papers. In that year were also published in England sixty-nine different country papers. The whole number of news-papers printed in England, in the year 1792, was 15,005,760.

Dr. Knox observes, that the value of news-papers in a free country "is truly great, as they form one of the best securities of freedom." It may, however, be remarked, that news-papers become less beneficial to a nation, when corrupt ministers of state find means to employ the money of the people in deceiving them; when they, or their creatures, become proprietors of news-papers, and thereby poison the fountains of public intelligence. In that case, hireling writers are employed, who exert all the talents of which they may be possessed in propagating falsehoods among their countrymen, and in infusing into their minds servile sentiments, and fitting them for a despotic government. But, at all times since news-papers have become general, there have been some which have been conducted in an independent manner, and which have been eminently useful to the public. "Let it be impressed upon your minds, says Junius, let it be instilled into your children, that the LIBERTY OF THE PRESS is the palladium of all the civil, political, and religious rights of an Englishman." And it is observed by Mr. Hume, that "it is sufficiently known, that despotic power would steal in upon us, were we not extremely watchful to prevent its progress; and were there not an easy method of conveying the alarm from one end of the kingdom to the other. The spirit of the people must frequently be roused, to curb the ambition of the court; and the dread of rousing this spirit must be employed, to prevent ambition. And nothing is so effectual to this purpose as the Liberty of the Press; by which all the learning, wit, and genius of the nation, may be employed on the side of liberty, and every one animated to its defence.

defence. We may conclude that the liberty of Britain is gone for ever, whenever any attempts to wrest away the Liberty of the Press shall succeed."

Suppose a person should purchase a MORNING CHRONICLE daily, Sundays excepted, for the space of a year, how much would he expend in that time at 6d. $\frac{1}{2}$ each paper? *Ans.* £8 9s. 6d. $\frac{1}{2}$.

No. 228. WAFERS.—Wafers for sealing letters are made by mixing fine flour with the whites of eggs, isinglass, and a little yeast, and beating the mass into a paste; then spreading it, when thinned with gum-water, on even tin-plates, and drying it in a stove, and cutting it for use. The different colours may be given by tinging the paste with brazil or vermilion for red; indigo, &c. for blue; saffron, turmeric, or gamboge, &c. for yellow, &c.

What are 349 boxes of Irish wafers worth at 8d. $\frac{1}{2}$ each? *Ans.* £12 14s. 5d. $\frac{1}{4}$.

No. 229. SEALING-WAX.—Sealing, or Spanish wax, is a composition of gum lacca, melted and prepared with resins, and coloured with some suitable pigment.

The best hard red sealing-wax is made by mixing two parts of shell-lack, well powdered, and resin and vermilion, powdered, of each one part, and melting this combined powder over a gentle fire; and when the ingredients seem thoroughly incorporated, working the wax into sticks.

What are 387 sticks of sealing-wax worth at 5d. $\frac{1}{4}$ per stick? *Ans.* £9 5s. 5d. $\frac{1}{4}$.

No. 230. YAMS.—Yam is a kind of root, which is much cultivated by the inhabitants of the islands in America, and is of great use to them for feeding their negroes; and the white people make puddings of them, when ground to a sort of flour. These roots are as big as a man's leg, of an irregular form, and of a dirty brown colour on the outside, but white and mealy within. They are roasted or boiled for food, and sometimes made into bread. These plants grow wild in the woods in the island

Island of Ceylon*, and on the coast of Malabar; and they are supposed to have been brought from the East to the West-Indies.

What are 486 yams worth at $4d. \frac{1}{2}$. each? *Ans.* £9 12s. 4d. $\frac{1}{2}$.

No. 231. WATCHES.—Watches were invented in the 17th century; and the glory of this excellent discovery lies between Dr. Hooke and M. Huygens, but to which of them it properly belongs has been much disputed; the English ascribing it to the former; and the Dutch, French, &c. to the latter. Dr. Derham, in his *Artificial Clock-Maker*, says expressly, that Dr. Hooke was the inventor; and he appears certainly to have been the inventor of what is called the pendulum watch. The time of this invention was about the year 1658; as is manifest, among other evidences, from an inscription on one of the double balance watches presented to King Charles II. viz. Rob. Hooke inven. 1658. T. Tompion fecit, 1675. The invention presently got into reputation, both at home and abroad; and two of them were sent for by the dauphin of France. Hume, however, (*History of England*, vol. v. p. 484:) asserts, that pocket watches were first brought into England from Germany about the year 1577, having been invented at Nuremburg.

What are 549 common silver watches worth at £4 18s. 6d. per watch? *Ans.* £2703 16s. 6d.

No. 232. CARDS.—Playing cards are little pieces of fine thin pasteboard, whereon are printed different points and figures; a certain number of which serve for the performance of many games. A full pack consists of 52 cards.

It is generally supposed, that cards were invented in France about the year 1390, to amuse Charles VI. during the intervals of a melancholy disorder which at length brought him to the grave†. But the honourable Daines

* See No. 208, p. 95.

† Mr. Malkin, in his ingenious *Essays*, observes, that the universal adoption of an amusement, which was invented for a *fool*, is no very favourable specimen of wisdom.

Barrington, in his "Observations on the Antiquity of Card-Playing in England," contends for their being of Spanish origin*, while others refer them to the Romans. It is, indeed, of little importance to whom we are indebted for these pestilential time-wasters; which not only weary the mind without improving it, but strengthen the passions of envy and avarice, and often lead to fraud and to profusion, to corruption and to ruin; which deaden the feelings of humanity, absorb every idea of justice, and too frequently annihilate every virtuous principle. The odious fashion of card-playing, says Dr. Johnson, was produced by a conspiracy of the old, the ugly, and the ignorant, against the young and beautiful, the witty and the gay; as a contrivance to level all distinctions of nature and of art; to confound the world in a chaos of folly; to take from those who could outshine them, all the advantages of mind and body; to withhold youth from its natural pleasures, to deprive wit of its influence, and beauty of its charms; to sink life into a tedious uniformity, and to allow it no other hopes or fears but those of robbing and being robbed †.

See where around the silent vor'ries sit,
 To radiant beauty blind, and deaf to wit;
 Each vacant eye appears with wisdom fraught,
 Each solemn blockhead looks as if he thought.
 Here coward insolence insults the bold,
 And selfish avarice boasts his lust of gold;
 Ill-temper vents her spleen without offence,
 And pompous dulness triumphs over sense.

PYE.

Now, in opposition to the foregoing strictures, let us place card-playing in the most favorable point of view; let us suppose, what, however, we fear is seldom the case, that it may be undertaken to recreate the body or to relax the mind; that it may be untainted with avarice, and unpolluted by passion; that, in short, it may be what is styled an innocent amusement; yet, even in this instance, we cannot but again adopt the language of Dr.

* Archæologia, vol. viii.

† Rambler, No. 15.

Johnson,

Johnson, that it is unworthy of a reasonable being to spend any of the little time allotted us, without some tendency, either direct or oblique, to the end of our existence. And though every moment cannot be laid out on the formal and regular improvement of our knowledge, or in the stated practice of a moral or religious duty, yet none should be so spent as to exclude wisdom or virtue, or pass without a possibility of qualifying us more or less for the better employment of those which are to come. It is scarcely possible to pass an hour in honest CONVERSATION*, without being able, when we rise from it, to please ourselves with having given or received some advantages; but a man may *shuffle cards from noon to midnight*, without tracing any new idea in his mind, or being able to recollect the day by any other token than his gain or loss, and a confused remembrance of agitated passions, and clamorous altercations †.

It is said by a late writer, "I cannot but regard it, both as the interest and the duty of persons of taste, and sentiment, and knowledge, to take every opportunity of discountenancing a species of fashionable amusement, that of card-playing; which is only adapted to the propagation and perpetuation of ignorance; which occasions a shameful waste of that time which might be much more beneficially, as well as agreeably employed; which is equally useless to the body and to the mind; and which is best calculated to please those persons, of both sexes, who are the most devoid of genius, and the most insignificant and frivolous ‡."

What are 684 packs of cards worth at 3s. 3d. per pack? *Ans.* £111 3s.

No. 233. CHERRIES.—This well-known fruit formerly grew spontaneously in the woods near Cerasus, a

- * Cards were superfluous here, with all the tricks
That idleness has ever yet contriv'd
To fill the void of an unfurnish'd brain,
To palliate dulness, and give time a show.

COWPER.

† Rambler, No. 80.

‡ History of Philip Waldegrave, vol. i. p. 32, 33.

city

city of Pontus, on the southern coast of the Black Sea. From this city it was brought to Rome by Lucullus, after the Mithridatic victory, in the year of the city 680, and conveyed into Britain 120 years afterwards, or A. D. 55. Hence, according to Servius, the cherry-tree is called *Cerasus*; hence also the Latins denominated its fruit *Cerasa*; and the French *Cerise*.

Miller enumerates only five species of cherries; and from these, modern botanists assure us, the great varieties cultivated in the English gardens are derived. Mr. Coxe, in his travels, relates an instance of great elegance in a dessert which he partook of at Moscow. On the upper and lower ends of the table were placed two superb China vases containing cherry-trees in full leaf, and fruit hanging on the boughs, which was gathered by the company. Mr. Moore informs us, that there is a cherry-stone in the Elector of Saxony's museum at Dresden, upon which, by the help of a microscope*, above a hundred faces may be distinguished. Dr. Oliver mentions having been shewn a cherry-stone in Holland with 124 heads upon it; and all so perfect, that the naked eye might distinguish those of kings, popes, &c. by their crowns, mitres, &c. This curiosity was purchased in Prussia, for the sum of £300, and is said to have been the workmanship of a poor wretch whilst in "durance vile" at Dantzick†.

The mischiefs arising from the custom which many people have of swallowing the stones of plumbs and other fruit are very great. Cherry-stones, swallowed in great quantities, have occasioned the death of several persons‡.

What are 743 pounds of cherries worth at 3d. $\frac{1}{4}$. per pound? *Ans.* £11 12s. 2d. $\frac{1}{4}$.

No. 234. GINGER.—Ginger is a warm aromatic root, a native of the East and West-Indies, where it is found growing naturally without culture. It is, however, cultivated for sale in most of the islands in America, and furnishes a considerable export. The best is of a brownish

* See Exer. on the Globes, 4th edit.

† See Exer. on the Globes, art. Cup.

‡ See Dr. Rees's New Cyclopædia and the Ency. Brit. art. Fruit-Stones.

colour,

colour, and of a hot, pungent taste, and agreeable smell. This root, when green, is frequently candied with sugar and honey. They also make a marmalade of it, and dry cakes. The northern people make great use of this confection, as holding it sovereign against the scurvy. The Indians eat the root, when green, by way of salad, first chopping it small, mixing it with other herbs, and seasoning it with oil and vinegar. Ginger is an ingredient in many medicinal compositions, and powders; being hot and penetrating; good to strengthen the stomach, promote appetite, and help digestion.

What are 888 ounces of ginger worth at 2d. $\frac{1}{4}$. per ounce? *Ans.* £9 5s.

No. 235. CASTOR OIL.—Castor oil is the product of a shrub, called by some *Palma Christi*, which grows in the West-Indies. It is variously prepared; the preferable method is by expression, as oils of all kinds have their acrimony heightened by the action of fire. It seems particularly adapted for the common complaints of infant children, and the cure of bilious disorders; and is certainly by all accounts a very valuable medicine. It is strongly recommended also in all calculous and nephritic disorders. The dose for adults is from two to three or four spoonfuls, in two spoonfuls of peppermint-water. It may be given to children mixed with honey; and it acts so mildly, that new-born infants may take it in about a tea-spoonful for a dose.

What are 947 ounces of castor oil worth at 8d. $\frac{1}{4}$. per ounce? *Ans.* £32 11s od. $\frac{1}{4}$.

No. 236. BARK.—Cortex Peruvianus, popularly called Jesuit's Bark, is the bark of a tree growing chiefly in Peru, denominated by the Spaniards Fever-Wood, by reason of its extraordinary virtue in removing all kinds of intermitting fevers and agues. The great value of this admirable febrifuge was not generally known till the year 1633*; when the lady of the viceroy of Peru, the Countess

* Its virtues are supposed to have been known to the natives of Peru as early as the year 1500. See Dr. Rees's New Cyclopædia. A casual circumstance discovered them. See *Curios. Lit.* vol. i. p. 451.

de Cinchon, having been long ill of an intermittent fever, which would give way to none of the known remedies, the corregidor* of Loxa† sent to the viceroy a quantity of this bark, which had the desired effect. Immediately on her recovery she sent for a large quantity, had it powdered, and herself dispersed it to those who had occasion for it; whence it obtained the name of the *countess's powder*. But this lady, being soon tired of the office, gave it in charge to the Jesuits‡; and they continuing to give it to the sick with the same success, it then was denominated the *Jesuits powder*. These fathers soon found means to send a quantity of it to Cardinal Lugo, who dispersed it with the same success at Rome; and after him the apothecary to the College of Cardinals gave it gratis to the poor with the same good effects, and under the name of the Jesuits, or the Cardinal's powder. Afterwards the better sort were made to pay its weight in silver for it, to defray the expences of importation, while the poor still had it gratis. Lewis XIV. at that time dauphin of France, was cured by it of a fever, which had not given way to other medicines.

Peruvian bark has been found very effectual in preventing colds. The method in which it has been used for this purpose was, after due preparation by bleeding or purging, to take two ounces of it every spring and fall. By this means an habitual taking of cold, and a consequent sore throat, have been cured.

What are 999 ounces of bark worth at 8d. $\frac{1}{2}$. per ounce? *Ans.* £35 7s. 7d. $\frac{1}{2}$.

RULE VI. To find the value of one or more thousands, seek the amount of a hundred, which multiply by ten; the result of that product multiply by the number of thousands in the question, if more than one, and proceed for the hundreds, tens, units, and fractions, as directed in the preceding rules.

* Corregidor is the name of an officer of justice in Spain, and countries subject to the Spanish government. He is the chief judge of a town or province.

† Loxa is a town situated on one of the branches of the river Amazon, in the province of Quito, in Peru. See Bourn's Gaz.

‡ See Chron. and Biog. Exer.

No. 237. **COFFEE.**—The coffee-tree is cultivated in Arabia, Persia, the East-Indies, and several parts of America. It is also raised in botanic gardens in several parts of Europe. Prince Eugene's* garden at Vienna produced more coffee than was sufficient for his own consumption. This tree, being an evergreen, makes a fine appearance at all seasons of the year; but especially when in flower, and when the berries are red, which is generally in the winter; so that they continue a long time in that state.

The coffee produced in Arabia is found so greatly to excel that raised in the West-Indies and elsewhere, that the cultivation of the tree is not much practised in the British colonies. Coffee-berries are very apt to imbibe moisture, or the flavour of any thing placed near them. They have been rendered very disagreeable, or utterly spoiled, by being placed in a closet near rum, spirits of wine, or pepper. The beverage prepared from those berries has been familiar in Europe for more than a century, and among the Turks for 170, some say 250 years. Its origin is not well known. Some ascribe it to the prior of a monastery; who being informed by a goat-herd, that his cattle sometimes browsing on the tree would wake and caper all night, became curious to prove its virtues. Accordingly, he first tried it on his monks to prevent their sleeping at matins†. Others refer the invention of coffee to the Persians. It seems, however, to have been first brought into vogue at Aden, a city near the mouth of the Red Sea. Hence it passed to Mecca. From Arabia Felix it was conveyed to Grand Cairo. From Egypt it passed to Syria and Constantinople. Thevenot, the traveller, was the first who brought it into France; and a Greek servant, called Pasqua, brought into England by Mr. Edwards, a Turkey merchant, in 1652, to make his coffee, first set up the trade of a coffee-man, and introduced drinking it into this island.

From several experiments and observations made by Dr. Percival‡, to ascertain the effects of coffee on the hu-

* See Chron. and Biog. Exercises.

† See Chron. and Biog. Exer. May 27, 1600.

‡ See Chron. and Biog. Exer.

man body, he infers, that it is slightly astringent, and antiseptic; that it moderates alimentary fermentation, and is powerfully sedative. It assists digestion, relieves the head-ach, and has been prescribed with great success in the asthma. In delicate habits the too liberal use of coffee has, however, been suspected of producing palsies.

What are 1000 pounds of coffee worth at 4s. 6d. per pound? *Ans.* £225.

No. 238. CACAO. The cacao, or chocolate nut-tree, is a native of America; and is found in great plenty in the northern provinces of South America, where it grows spontaneously; but it is cultivated in many of the West-India islands. It resembles a cherry-tree. The fruit is enclosed in a kind of pod, of the size and figure of a cucumber. Of this fruit, which consists of seeds, usually about 30 in number, with the addition of vanilla, and some other ingredients, the Spaniards, and after their example the rest of Europe, prepare a kind of conserve, or cake; which, diluted in hot water, makes that delicious, wholesome drink, called CHOCOLATE. It is likewise made into a sweetmeat; and there is an oil extracted from it, which is an extraordinary remedy for the cure of burns and scalds. The cacao-nuts are esteemed by the Mexicans as anodyne; and used, eaten raw, to assuage pains of the bowels.

The above statement refers to the cacao, or tree bearing the *small pods*: what follows relates to the cacao-tree which bears the *large nuts*. This tree, it has been remarked, supplies the Indians with almost whatever they stand in need of. The bark of the nut is made into cordage, sails, and cloths; and the shell into drinking bowls, cups, &c. the kernel affords a wholesome food; and the milk contained in the shell a cooling liquor:

“ At noon, reclin’d in yonder glade,
 “ Panting beneath the tamarind’s shade,
 “ Or where the palm-tree’s nodding head
 “ Guards from the sun my verdant bed,
 “ I quaff, to flake my thirsty soul,
 “ The coco’s full nectareous bowl.”

The leaves are used for thatching houses, and wrought into baskets; and the body of the tree is converted into masts for ships, and employed for various other purposes. Indeed, it is asserted in Lobo's voyage, and by other authors*, that a ship may be built, fitted out with masts, sails, and cordage, and victualled with bread, water, wine, sugar, vinegar, and oil, from the cacao-nut-tree.

It is, probably, to this tree that Thomson alludes in the subsequent lines:

Wide o'er his isles the branching Oronoquet
Rolls a brown deluge, and the native drives
To dwell aloft on life-sufficing trees,
At once his dome, his robe, his food, and arms.

What are 2876 cacao nuts worth at 1s. 6d. $\frac{1}{4}$. each?
Ans. £224 13s. 9d.

No. 239. LARKS.—The common field lark or sky-lark is not less esteemed for its delicacy at table than for its singing. This and the wood-lark are the only birds that sing as they fly. The sky-lark raises its note as it soars, and lowers it till it quite dies away as it descends. It will often soar to such a height, that we are charmed with the music when we lose sight of the songster:

“ The tuneful lark's high tow'ring flight
“ Fatigues the disappointed sight.”

* See Ray's Wisdom of God in the Creation, p. 207.

† A noble river of Terra Firma in South America.

‡ Shakspeare's language on this subject is extremely hyperbolic;

Hark, hark! the lark at Heaven's gate sings;

And again,

Like as the lark, at break of day arising
From fullen earth, sings hymns at Heaven's gate.

Milton employs the same mode of expression:

Ye birds

That singing up to Heaven's gate ascend,
Bear on your wings and in your notes his praise.

It likewise begins its song before the earliest dawn :

Up springs the lark,
 Shrill-voic'd and loud, the messenger of morn* ;
 Ere yet the shadows fly he mounted sings
 Amid the dawning clouds, and from their haunts
 Calls up the tuneful nations.

THOMSON'S Spring.

Milton also, in his Allegro, most exquisitely expresses these circumstances ; and Bishop Newton observes, that the beautiful scene which Milton exhibits of rural cheerfulness, at the same time gives us a fine picture of the regularity of his life, and the innocency of his own mind : thus he describes himself as in a situation

To hear the lark begin his flight,
 And singing startle the dull night,
 From his watch-tow'r in the skies,
 Till the dappled dawn doth rise.

This delightful warbler continues its pleasing harmony for several months, beginning early in the vernal season.

Mark how the lark and linnet sing ;
 With rival notes
 They strain their warbling throats
 To welcome in the spring.

DRYDEN.

The following monitory lines on the subject of " the lark's sweet matin song " may not, perhaps, be entirely useless to our young readers :

Those little songsters mounted high,
 Harmonious carol to the sky :
 To heaven their tuneful off'ring pay,
 And seem to hail the new-born day !
 Sweet bird ! instructed by thy lays,
 Can man forget his MAKER'S praise ?
 Reviving from the shades of night,
 Can he behold th' all-quick'ning light,

• It was the lark, the herald of the morn.

SHAKSPEARE.

Can

Can he unclose his sluggish eyes,
Nor send one rapture to the skies ?

ANNA WILLIAMS'S Miscellanies.

In the winter, larks assemble in vast flocks, grow very fat, and are taken in great numbers for our tables. Immense multitudes are at times caught in different parts of Germany, where there is an excise upon them. According to Keyser*, this duty produces annually about £900 sterling to the city of Leipzig; whose larks are famous all over Germany as having the most delicate flavour.

In England these birds are taken in the greatest quantity, in the vicinity of Dunstable, in Bedfordshire; and the palate of the epicure is well acquainted with their rich flavour and delicacy. Whether the herbage of the downs is peculiarly favourable to the production and improvement of this delicious bird, we know not; but certain it is, that the goodness of a *Dunstable Lark* has become a proverb. The season commences in September, and terminates in February; and during that space 48,000 larks have been caught and sent to supply the markets of the metropolist.

What is the value of the above number of birds at three halfpence each? *Ans.* £300 sterling.

BILLS OF PARCELS.

No. 240. A MERCER'S BILL.

Mrs. JONES,

Bought of WILLIAM BROOK, March 4, 1810.

	s.	d.	£	s	d.
9 Yards of silk at	13	6			per yd.
14½ Yards of flowered do. at	15	11			per yd.
23 Yards of farfenet at	6	4			per yd.
30½ Yards of brocade at	9	11½			per yd.
15½ Yards of Genoa velvet at	19	10			per yd.
18 Yards of lustring at	5	8			per yd.

£60 6 1½

* See Exer. on the Globes.

† See Ency. Brit. art. Alauda.

128 COMPOUND MULTIPLICATION.

No. 241. *A LINEN-DRAPER'S BILL.*

Mr. SALMON,

Bought of JOHN WILLIAMS, June 4, 1810.

	s.	d.		£	s.	d.
34 Ells of dowlas.....at	1	10	per ell.			
28 $\frac{1}{4}$ Ells of holland.....at	5	6	per ell.			
13 $\frac{1}{2}$ Ells of diaper.....at	1	4 $\frac{1}{2}$	per ell.			
68 Damask napkins.....at	2	3	each..			
5 $\frac{1}{2}$ Yards of cambric.....at	13	7	per yd.			
74 $\frac{1}{4}$ Yards of muslin.....at	8	11	per yd.			

£55 8 0

No. 242. *A MILLINER'S BILL.*

Mrs. PHILLIPS.

Bought of KATE WATSON, June 4, 1810.

	s.	d.		£	s.	d.
18 $\frac{1}{2}$ Yards of fine lace.....at	15	7	per yd.			
12 Pair of kid gloves.....at	2	2	per pr.			
18 French mounted fans .at	3	9	each..			
4 Fine lace tippetts.....at	7	10	each..			
4 Doz. linen gloves.....at	1	4	per pr.			
8 Sets of knots.....at	2	6	per fet			

£24 17 1 $\frac{1}{2}$

DIVISION

D I V I S I O N

IS a short way of performing many subtractions, and consists of three terms, called the **DIVIDEND**, **DIVISOR**, and **QUOTIENT**.

The first is the number given to be divided; the second, that by which the work is performed; and the third, the result of the operation.

E X A M P L E S.

No. 248. VELOCITY OF LIGHT.—

Let there be light, said **GOD**, and forthwith light
 Etherial, first of things, quintessence pure,
 Sprung from the deep.
 Hail holy light, offspring of heav'n first-born,
 Whose fountain who shall tell*? Before the sun,
 Before the heav'ns thou wert; and at the voice
 Of **GOD**, as with a mantle didst invest
 The rising world of waters dark and deep,
 Won from the void and formless infinite †.

MILTON.

The sacred writings inform us, that the Divine Architect of the universe, after he had created the light, formed the **SUN**, which, according to philosophers and astronomers, then became "the great palace of light †; the regent of day; the delegated source of light and life; the best image here below of his Creator."

* See Job. xxxviii. 19.

† See Gen. i. 2, 8.

‡ A learned foreigner has made the following observation on the subject of light. "There is no country in Europe, says Dr. Wendenborn, more heavily burdened with taxes than England. The very light which falls through the windows, and which in London, during the winter, is mixed with no small portion of darkness, *must be paid for*." By the heavy duties which have been laid on windows in this country, modern architecture is deformed; for few now, as Dr. Mavor observes, can afford to study the beauty of appearance, but only the saving of expence.

It has been well remarked, that the pleasure produced by the sight of the rising sun is universal, and extends to every creature; the birds fill the air with their melody; the bleating lambs sport around their mothers; the inhabitants of the waters play upon the surface; and all animals express, in their peculiar manner, the lively joy that they feel.

Mathematicians have demonstrated, that light moves with such amazing rapidity, as to pass from the sun to our planet in about the space of eight minutes*. Now, admitting the distance, as usually computed, to be 95,000,000 of English miles, at what rate per minute does it travel? *Ans.* 11,875,000 miles.

No. 244. A MANUFACTURER.—A manufacture is something made by the hand of man. It is derived from two Latin words, *manus*, the hand, and *facere*, to make. Manufactures are therefore opposed to *productions*, which latter are what the bounty of nature spontaneously affords us; as fruits, corn, marble, &c.

“If we try the different characters of men,” says an able writer, “by the test of utility, and found this test on the actual state of our nation, the *knight of chivalry*, and his various offspring, compared to the modern manufacturer, seem weak and useless things. Even the country gentleman, the most respectable character of all those *lilies of the valley who neither toil nor spin*, sinks in this comparison. The proprietor of landed property; who lives on the income of his estates, can in general be considered only as the conduit that conveys the wealth of one generation to another. He is a necessary link in society indeed, but his place can at all times be easily supplied: in this point of view, the *poor peasant* who cultivates his estate is of more importance than he. How then shall we estimate him when compared with a respectable manufacturer?—with the original genius, for instance, who has found means to convert our clay into porcelain, and lays all Europe under contribution to England by his genius, taste, and skill?”

* See the Cyclop. art. *Light*, or the Ency. Brit. art. *Astronomy*, vol. ii. p. 577.

The respectable manufacturer here alluded to, was undoubtedly the late Mr. Wedgwood, who extended and doubled pottery to a variety of curious compositions, subservient not only to the ordinary purposes of life, but to ornament, the arts, antiquity, history, &c. and thereby rendered it a very important object of commerce, both foreign and domestic*. This valuable manufacture is carried on at Burslem, near Newcastle-under-Line, in Staffordshire.

If 9 table sets of Mr. Wedgwood's porcelain cost £351, how much is that per set? *Ans.* £39.

No. 245. **TRADESMAN.**—A tradesman is a shop-keeper. A merchant is called a *trader*, but not a tradesman; and it seems distinguished in Shakspeare from a man that labours with his hands.

“ I live by the awl, I meddle with no tradesman's matters.”

Suppose a tradesman saves £1490 in 10 years; how much is that per annum? *Ans.* £149.

No. 246. **A MECHANIC.**—This word sometimes signifies a man skilled in mechanics; a mathematical science which demonstrates the laws of motion. But it generally denotes a low workman; a person of mean occupation; in which sense Shakspeare uses it; and no author has, we think, treated these valuable members of the community with more aristocratic insolence than that imitable bard. “ Mechanic slaves; mechanical, salt-butter-roguers; worsted-stocking knaves; rank-scented many †, apron-men, garlick-eaters,” are a few of the many contemptuous epithets which are applied to them in his dramatic pieces. Hence it may be inferred, that it was the *ton* in his time, as it has been since, to consider the lower classes of God's creatures as “ things base and vile, hold-

* See Chron. and Biog. Exer. art. Wedgwood.

† After him the rascal-many ran,
Heaped together in rude rabblement.

D I V I S I O N .

ing no quantity." Let, however, the proudest natural philosopher, or the profoundest mathematician, consider, that although he may be justly delighted with the extent of his own views, yet, without mechanical performances, all his refined speculations would prove but an empty dream. And, indeed, in justice to Shakspeare, he may be considered in these passages not as expressing his own sentiments, but as exhibiting the insolent language often employed by the wealthy, and by those who are sometimes styled the great, when speaking of the lower orders of society.

Suppose a mechanic earns £17 6s. 6d. in 11 weeks; how much is that per week? *Ans.* £1 11s. 6d.

No. 247. PEASANT.—A peasant is one whose business is rural labour. Peasantry denotes country people.

Ill fares the land, to hast'ning ill a prey,
Where wealth accumulates, and men decay;
Princes and lords may flourish, or may fade;
A breath can make them, as a breath has made:
But a bold PEASANTRY, their country's pride,
When once destroy'd, can never be supply'd.

GOLDSMITH.

It has been justly remarked, that farmers, manufacturers, mechanics, and labourers, are the strength and boast of an empire. Without labour man could not exist: and where lies the great burden and weight of industry but upon these? It is by prodigious labour that the earth is forced to produce the necessaries of life:

The fire of gods and men, with hard decrees,
Forbids our plenty to be bought with ease:
And wills that mortal men, inur'd to toil,
Should exercise, with pain, the grudging soil.

DRYDEN'S VIRGIL.

It is by an equally painful application, that all kinds of manufactures are produced; the conveniences, the luxuries of life, all come from them:

Hence

Hence corn, and wine, and oil, and all in life
 Delectable. What simple nature yields
 (And nature does her part) are only rude
 Materials, cumber on the thorny ground;
 'Tis toil that makes them wealth.

DYER.

It is, therefore, the labour of the artizan and the peasant that supports monarchy; it is their labour that supports aristocracy; it is their labour that supports the priesthood; and it is their labour that supports themselves. Have then, it has been asked, such men no RIGHTS in a state; are they to be stigmatized by aristocratic pride and insolence as the "*swinish multitude*;" and to be treated with contempt?

Suppose a peasant earns £5 14s. in 12 weeks; how much is that per week? *Ans.* 9s. 6d.

No. 248. LONGITUDE.—Longitude is the distance of a place from some first meridian, east or west, measured in degrees and minutes (60 of which make a degree) on the equator, half the circumference of the globe, or 180 degrees. Longitude may also be reckoned by time: for the circumference of the earth being 360 degrees, and its diurnal revolution performed in 24 hours, it follows, that 1 hour of time is equal to 15 degrees of longitude, and so in proportion for any greater or less quantity: consequently, a place which has the sun 1, 2, or 3 hours before or after another place, must be situated 15, 30, or 45 degrees east or west of the meridian of such a place. Hence, dividing the longitude of any place by 15, will give the number of hours which that place has the sun before or after persons who live under the first meridian.

When the place in the subsequent questions lies in eastern longitude, the quotient of the operation now recommended will give the hour required, which will either be in the afternoon, evening, or night; but when it is situated in western longitude, the time in the quotient must be subtracted from 12, and the remainder will be the hour sought, viz. some portion of the morning. A similar procedure will afford an answer to all questions of this nature, whatever hour may be proposed.

PETERSBURGH,

PETERSBURGH, the capital of the Russian empire, built by Peter the Great; and CONSTANTINOPLE, the chief city of the Ottoman empire, rebuilt by Constantine the Great, are situated in *about* thirty degrees of eastern longitude from the meridian of LONDON: what is the hour at those places when it is noon with us? *Ans.* 2 o'clock in the afternoon.

No. 249. BOTANY-BAY.—This place is situated in New-Holland, the largest island in the world, and was fixed upon to receive convicts when the cessation of transferring them to America took place. The Squadron which conveyed Governor Phillip thither sailed in May 1787; and, after touching at Santa Cruz*, in the isle of Teneriffe, Rio de Janeiro, on the coast of Brazil, South America, and the Cape of Good Hope, arrived in sight of the coast of Botany-Bay the beginning of January 1788. The water in this bay being found shallow, and the anchorage bad, Port Jackson, a bay three leagues north of it, was examined; which being found uncommonly good, a cove denominated from Lord Sydney, *Sydney-Cove*, was fixed on for suiting the purpose of debarkation. Thus seated at the head of this cove, Governor Phillip assumed, in a solemn manner, the powers of government delegated to him, by publishing the royal commission, which constituted him captain-general and governor of New South Wales, and the islands adjacent in the Pacific Ocean†.

Botany-Bay is situated in about 34 degrees of south latitude, and 150 degrees of east longitude from London; what is the hour at that place when it is noon with us? *Ans.* 10 o'clock at night.

No. 250. AMBOYNA.—This is one of the Moluccas, or clove islands, in the East-Indies. Here the English and Dutch had formerly their respective factories and settlements, and had by treaty agreed to divide the traffic between them; but the latter, under pretence that the English were concerned in a plot, seized all their factors and merchants, with their merchandize, writings, and

* See Chron. and Biog. Exer. 4th edit.

† See Feb. 7, 1788, Chron. and Biog. Exer.

books. These acts of violence were followed by a scene of horror scarcely to be equalled by the punishment of the most atrocious offenders. Their savage tormentors tortured these miserable victims by every cruel method that they could invent, in order to make them confess their imaginary treachery : and those who did not expire under the agonies of torture, were consigned to the hands of the executioner. This event took place in 1622, in the reign of James I. ; and neither he nor his successor Charles I. had the spirit to procure any satisfaction for this infamous infraction of the law of nations, and shameful violation of every principle of humanity. But Cromwell, when peace was signed with the Dutch in 1654, compelled them to pay £300,000, on this account*, and Amboyna has been recently taken by the English†. It may, indeed, be reckoned singular in the fortune of this commercial republic, that they were permitted to enjoy this invaluable island so long in peace ; since it was obtained by means that will stain the Dutch annals, to the latest ages, with indelible infamy.

Amboyna is situated in 4 degrees of south latitude ; and 107 degrees of east longitude ; what is the hour there when it is noon with us ? *Ans.* 8 hours 28 minutes in the evening.

No. 251. CALCUTTA.—This large and populous city, the capital of Bengal, and of all the British possessions in the East-Indies, is situated on a branch of the Ganges, about 100 miles from the sea. It was taken by the Nabob Surajah Dowlah in 1756, when the English prisoners, in number 146, were driven in the evening into a place called the Black-Hole prison, a cube of about 18 feet, where, through the want of room, the exclusion of fresh air, and the heat of the climate, 123 of these hapless victims expired in extreme agonies the same night : an affecting scene, which is pathetically described in Smollett's History of England. See Chron. and Biog. Exer. art. Calcutta.

Calcutta being retaken by Admiral Watson and Colonel

* See Rapin, vol. xi. p. 76.

† See Chron. and Biog. Exercises, Feb. 16, 1796.

Clive,* early in 1757, the Nabob was afterwards defeated, deposed, and put to death.

The eastern longitude of Calcutta is about $88\frac{1}{2}$; what o'clock is it with the inhabitants when it is mid-day with us? *Ans.* 54 minutes past 5 in the afternoon.

No. 252. BALDIVIA.—Baldivia or Valdivia, a seaport town of Chili, South America, was built in 1551, by the Spanish general Baldivia. This brutal officer tyrannizing over the Chilefians occasioned a general revolt, and CAPAULICAN, a renowned hero, was chosen their leader. By his skill and intrepidity, the Spanish army which opposed them was surrounded and cut to pieces; and Baldivia himself, being captured, was put to death by having melted gold poured down his throat. The Indians afterwards made flutes and other instruments of his bones, and preserved his skull as a monument of their victory, which they celebrated by an annual festivity.

Baldivia is situated in about 40 degrees of south latitude, and 81 degrees of west longitude; what is their hour when it is mid-day with us? *Ans.* 36 minutes past 6 o'clock in the morning.

No. 253. JUAN FERNANDEZ,—This is a small island west of Chili, South America. It has plenty of excellent water, and abounds in a variety of excellent vegetables, highly antiscorbutic. Here Commodore Anson's languishing and distressed crew, after having been buffeted with tempests, and debilitated by an inveterate scurvy, were restored to perfect health in 1741†. But what has chiefly contributed to render this spot remarkable, is its having been the solitary residence of one Alexander Selkirk, a

* See Chron. and Biog. Exercises.

† The Parthians put Crassus, a triumvir and Roman general, whom they had taken prisoner, to a similar death; as a punishment for his former avarice. See Triumvir, Index.

The Parthians are the same as the ancient Persians; a name derived from a Hebrew word which signifies horsemen; this people greatly excelling in horsemanship and archery. The proper name of the Persian nation is Ælam, of which Elymais was the capital, as Susa was the chief city of the Persians, See Exer. on the Globe, art. Sagitta.

‡ See Anson, Index.

Scotchman, who was left here about the year 1705, and continued alone upwards of four years*, when he was taken on board an English ship, and brought back to Europe†. When he was first discovered he had forgotten his native language, and could scarcely be understood, seeming to speak his words by halves. He was dressed in goats skins, would drink nothing but water, and it was some time before he could relish the ship's victuals. During his abode in this island, he had killed 500 goats, which he caught by running them down; and he marked as many more on the ear, which he let go. Some of these were caught by Anson's people; their venerable aspect and majestic beards discovered strong symptoms of antiquity.

Juan Fernandez is situated in about 33 degrees of south latitude, and 83 degrees of west longitude; what o'clock is it there when it is noon with us? *Ans.* 28 minutes past 6 in the morning.

* Dampier relates, that a Moskito Indian was left accidentally on the island of Juan Fernandes, and lived there alone for three years, till he was brought away by the ship to which that celebrated navigator belonged.

† It has been pretended, that Selkirk, after his return to England, was advised to publish an account of his adventures; that he put his papers into the hands of Daniel De Foe, to prepare them for publication; that the latter surreptitiously appropriated these papers to his own use, and that this was the origin of ROBINSON CRUSOE*. But this charge against De Foe, though it has been repeatedly published, appears to have been totally groundless; and though he had many enemies, and was often attacked in print, the charge was never brought against him in his own life-time. De Foe probably, indeed, derived some general hints for his own work from the story of Selkirk; but this he, or any other man, had a right to do, as the story of Selkirk had been published by Captain Woodes Rogers, who brought him to England, in his account of his voyage round the world, which was printed in 1712, seven years before the publication of Robinson Crusoe. Daniel De Foe was a writer of very uncommon ingenuity, and author of a great number of popular productions. He appears also to have been a man of great integrity, and of a high degree of public spirit! an ardent and enlightened friend to the interests of liberty. He died at his house at Islington, in 1731.

* This celebrated romance is written in so natural a manner, and with so many probable incidents, that it was judged to be a true story for some time after its publication.

No. 254. VELOCITY OF THE EARTH AT THE EQUATOR.—The circumference of our earth under the equator is 21,600 geographical, or 25,000 English miles; now this body turning on its axis in about 24 hours, at what rate an hour, English measure, are the inhabitants, situated under the equator, carried from west to east by the rotation? *Ans.* 1042½ miles.

N. B. The persons thus situated are those living in the islands of Celebes, Borneo, and Sumatra, in the East-Indies; in the south part of Africa; and in Terra Firma and Guiana, in South America.

No. 255. VELOCITY OF THE EARTH AT LONDON.—The velocity of the parts of the earth near the equator greatly exceeds the rapidity of motion of the parts in latitudes approaching the poles; as will be evident by the bare inspection of a terrestrial globe. In the parallel of latitude in which London is situated, a degree of longitude is only about 37 geographical, or 42 English miles; consequently, the circumference of the globe in this parallel is but about 15,120 English miles. At what rate per hour are *we* carried by the earth's diurnal rotation? *Ans.* 630 miles.

No. 256. EQUESTRIAN EXPEDITION.—Mr. Cooper Thornhill, an innkeeper at Stilton, in Huntingdonshire, rode from that place to London, and back again, and also a second time to London, in one day; which made in all 213 miles. He undertook to ride this journey with several horses in 15 hours, but performed it in 12 hours and a quarter*.—Some years ago, Lord James Cavendish rode from Hyde-Park-Corner to Windsor-Lodge, which is upwards of 20 miles, in less than an hour.—Sir Robert Cary rode near 300 miles in less than three days, when he went from London to Edinburgh, to inform King James of the death of Queen Elizabeth. He had several falls and sore bruises on the road, which occasioned his going battered and bloody into the royal presence.—On the 3d of May 1758, a young lady, who at Newmarket had laid

* A poem, called "The Stilton Hero," was published on this celebrated character in 1745.

a considerable wager, that she could ride 1000 miles in 1000 hours, finished her match in little more than two thirds of the time. At her coming in, the country people strewed flowers in her way.—On the 29th of August 1750, was decided at Newmarket, a remarkable wager for 1000 guineas, laid by Theobald Taaf, Esq. against the Earl of March and Lord Eglington, who were to provide a four-wheel carriage with a man in it, to be drawn by four horses 19 miles in an hour; which was performed in 53 minutes and 24 seconds. An engraved model of the carriage was formerly sold in the print-shops.—The celebrated Marquis de la Fayette rode in August 1778, from Rhode-Island to Boston, near 70 miles distant, in seven hours, and returned in six and a half.—Mr Fozard, of Park-Lane, London, for a wager of £150 against £100, undertook to ride 40 miles in two hours, over Epsom course. He rode two miles more than had been agreed on, and performed it in 5 minutes under time, in October 1789.—Mr. Wilde, an Irish gentleman, lately rode 127 miles on the course of Kildare in Ireland, in 6 hours and 20 minutes, for a wager of 1000 guineas.—The famous Count de Montgomery escaped from the massacre of Paris in 1572, through the swiftness of his horse; which, according to a manuscript of that time, carried him 30 leagues, or 90 miles, without halting†.

Some of these equestrian performances seem to countenance Shakspeare's hyperbolic language on this subject :

I've heard of riding wagers,
Where horses have been nimbler than the sands
That run i'th' clock's behalf.

The inimitable humour with which Shakspeare portrays "Hal's" frolics, and "the fat knight's" prowess at Gad's-Hill, a few miles from Rochester, Kent, has immortalized that otherwise obscure spot. But the following incident, the most singular, perhaps, on record, superadded, in 1676, no small degree of temporary notice to its long established celebrity. One Nicks having committed a

* Dr. Gordon's Hist. Amer. War, vol. iii. p. 168.

† See Chron. and Biog. Exer. 4th edit.

robbery there about 4 in the morning, and suspecting himself recognized by the party robbed, made for Gravesend, where he ferried over the Thames, and rode to York with such speed, that, as was attested by the chief magistrate at his trial, he appeared on a bowling green in that city, at 8 o'clock the same evening; which circumstance, so credibly and solemnly vouched, occasioned his acquittal; the jury judging it to be morally impossible for *the same horse* to bear the same man so long a journey in 16 hours.

The distance is computed at 214 miles: supposing his horse was to have rested on the road for the space of 2 hours, what was the average expedition of every other hour? *Ans.* 15 miles $\frac{1}{4} \frac{2}{4}$.

N. B. One of the fleetest race-horses ever known was CHILDERS, who ran 7420 yards, the space of one of the Newmarket horse-courses, in $7\frac{1}{2}$ minutes; which is at the amazing rate of more than $33\frac{1}{2}$ miles in an hour; and the most extraordinary speed exhibited at a trot in harness, was lately performed by a horse belonging to Mr. Lane, of Coleman-Street, which performed fourteen miles within an hour.

No. 257. PEDESTRIAN EXPEDITION.—Euchidas, a citizen of Platzea, went from thence to Delphos, to bring the sacred fire. This he obtained, and returned with it the same day before sun-set, having travelled 125 English miles. No sooner had he saluted his fellow-citizens, and delivered the fire, than he fell at their feet, and expired*.—After the battle of Marathont, a soldier was sent from the field to announce the victory at Athens. Exhausted with fatigue, and bleeding from his wounds, he had only time to cry out, “Rejoice, we are conquerors!” and immediately expired†. Foster Powell, the celebrated English pedestrian, performed many astonishing journies on foot. Among these, was his expedition from London to York and back again in 1788, which he completed in 140 hours‡.

Supposing Powell to have rested 40 hours in his journey, at what rate per hour did he travel, York being 198 miles from London? *Ans.* 3 miles and $\frac{4}{106}$.

* Rollin's Anc. Hist. vol. ii. p. 509.

† See Quest. 17, p. 20.

‡ Dr. Rutherford's Anc. Hist. vol. i. p. 446.

§ See Chron. and Biog. Exer.

No. 258. JOSEPH SOLD.—The history of Joseph has such a majestic simplicity in the relation, and exhibits so affecting a portrait of human nature, that it overwhelms us alternately with vicissitudes of joy and sorrow. His conduct, in many respects, is highly deserving of imitation; and his behaviour, under a most ensnaring temptation, bespeaks a mind whose passions were in entire subjection to the ruling principles of reason and conscience; it manifests the most delicate sentiments of honour, and the most lively impressions of religion; and, finally, it displays, in a strong light, one of the most amiable virtues that can adorn the human character, GRATITUDE*; a quality, which, if it may not be correctly termed the basis of all virtues, is, at least, so connected with their existence, that they never are found where it does not flourish.

• From the pathetic and interesting account of Joseph's being sold into Egypt, youth may learn a most important lesson. They may see the natural but fatal progress of vice and wickedness; how easily and almost necessarily men proceed from bad actions to worse. The seeds of envy and jealousy, in Joseph's brethren, grew by degrees into actual hatred; and hatred, by an easy transition, degenerated into intentional murder—the murder of a brother! “When a turn is once made from the straight path, who shall prescribe limits to their deviation?”

Joseph was sold at Dothan, north of Samaria †, for 20 pieces of silver; supposed by commentators to have been shekels, whose total value was £2 7s. 6d. what is one worth according to this supputation? *Ans.* 2s. 4d. $\frac{1}{2}$.

No. 259. AN ENGLISHMAN'S HOUSE IS HIS CASTLE.—A house is defined to be a habitation; a place built with conveniences to live in; or a building wherein to shelter a man's person and goods from the inclemencies of the weather and the injuries of ill-disposed persons. Accordingly, many salutary laws have been enacted, not only to preserve this particular species of property, but for the personal security of its inmates. If a man's house

* See Gen. xxxix. 9.

† See Chron and Biog. Exer. art. Blandy.

‡ See Script. Maps.

be attacked with intent to murder, and the owner, or his servants, kill the ruffians in defending him and his house, it is not felony, and incurs no forfeiture. The doors of a house may not be broken open for arrests, except in cases of treason or felony. &c In fine, the ancient laws of England made a house alike sacred from the intrusion of the ruffian and the magistrate—even *the first magistrate**. Agreeably to this constitutional doctrine the late Earl of Chatham observed, that “The winds and the elements might enter the cottage of the peasant, but not the KING, without the peasant’s permission.” And to endear our dwellings still more to us, let it be considered, that a man’s house is his *home*; and that “a well-ordered home,” especially among the enlightened and the virtuous, if they have a sufficiency of the necessaries of life,

Is the resort

Of love, of joy, of peace and plenty, where,
Supporting and supported, polish’d friends
And dear relations mingle into bliss.

THOMSON.

Nor, according to another poet, are domestic comforts altogether denied even to the laborious peasant: he has, at least in times of national prosperity,

His little smiling cottage, where at eve
He meets his rosy children at the door,
Prattling their welcomes, and his honest wife,
With good brown cake and bacon slice, intent
To cheer his hunger after labour hard.

DYER.

Suppose the expences of a house to amount to £300 per annum, how much is expended quarterly, monthly, and weekly? *Ans.* £75 per quarter; £25 per month; £5 15s. 4d. $\frac{1}{2}$. per week.

No. 260. LOTTERIES.—Lottery is a kind of public game at hazard, frequent in England, France, and Hol-

* It must, however, be acknowledged, that by some late enormous extensions of the excise laws, and other circumstances, the houses of Englishmen are not now so sacred, nor so well protected, as in the times of their ancestors.

land,

land, in order to raise money for the service of the state, and appointed with us by act of parliament. But in the reign of Queen Anne, it was thought necessary to suppress Lotteries, as nuisances to the public; and the "pernicious effects of this mode of raising money for the use of the state have," as Dr. Towers justly remarks, "been since repeatedly pointed out, and are so generally acknowledged, that scarcely any man entertains the least doubt upon the subject. Yet lotteries continue to be supported by those in administration; which could not be the case, if the welfare of the people were really the object of those to whom the powers of government are intrusted*." Mr. Colquhoun, also, in his truly meritorious publication, entitled, "A Treatise on the Police of the Metropolis," details in very pointed language the mischiefs of lotteries.

The Romans invented lotteries to enliven their Saturnalia. This festival, which was instituted in commemoration of the freedom and equality which prevailed on earth in the golden reign of Saturn, began by the distribution of tickets which gained some prize. Augustus appointed lotteries which consisted of things of little value; but Nero established some for the people, in which 1000 tickets were distributed daily, and several of those who were favoured by fortune became rich by them. Heliogabalus invented some lotteries of a very singular nature: the prizes were either of great value, or of none at all; one gained a prize of six slaves, and another of six flies; some got valuable vases, and others vases of common earth. A lottery of this kind exhibited an excellent picture of the inequality with which fortune distributes her favours.

The first lottery in England, of which we have any account, was drawn at the west door of St. Paul's cathedral, in 1569, and consisted of 40,000 lots at 40s. each. The prizes were plate, and the profits were to be applied towards repairing the havens of this kingdom. In 1612, King James, for the plantation of English colonies in Virginia, appointed a lottery at the place where the one just mentioned had been determined. The principal prize of this last was 4,000 crowns in fair plate.

* Thoughts on the Commencement of a New Parliament. By Dr. Towers.

In the state lottery of the year 1787, one of the £100,000 prizes came to a club consisting of 35 clerks in the India-house. To how much did the share of each amount? *Ans.* £571 8s 6d. $\frac{1}{2}$.

No. 261. THE MAN OF ROSS.—

But all our praises why should lords engross?
 Rise, honest muse! and sing the MAN OF ROSS.
 Who hung with woods yon mountain's sultry brow?
 From the dry rock who bade the waters flow?
 Whose causeway parts the vale with shady rows?
 Whose seats the weary traveller repose?
 Who taught that heav'n-directed spire to rise?
 "The *Man of Ross*," each lisping babe replies.
 Behold the market-place with poor o'erspread!
 The *Man of Ross* divides the weekly bread:
 He feeds yon alms-house, neat, but void of state,
 Where age and want sit smiling at the gate:
 Him portion'd maids, apprentic'd orphans, blest,
 The young who labour, and the old who rest.
 Is any sick? the *Man of Ross* relieves,
 Prescribes, attends, the med'cine makes and gives.
 Is there a variance? Enter but his door,
 Balk'd are the courts, and contest is no more.
 Thrice happy man! enabled to pursue
 What all so wish, but want the power to do!
 Oh say, what sums that gen'rous hand supply?
 What mines to swell that boundless charity?
 Of debts and taxes, wife and children clear,
 This man possess'd—*five hundred pounds a year.*

POPE*.

* POPE wrote this account of the Man of Ross at Home-Lacey, the very ancient seat of the Scudamores, in Herefordshire, now in the possession of the Duke of Norfolk; and the apartments which that great poet so often visited, remain at present in the same state as formerly.

ROSS is a fine old town on the river Wye in Herefordshire, one of the pleasantest and most picturesque parts of England. The house in which this public-spirited philanthropist resided is now an inn, and bears the sign of "The Man of Ross." The two charity-schools of Ross have been lately (1786) enriched by a legacy of £200 per annum from a Mr. Scott, hence denominated "The Second Man of Ross."

* Barber's Tour, p. 353.

This

This praise of the *Man of Rofs*, as Dr. Johnson remarks, deserves particular examination. He is said to have diffused all the blessings just enumerated, from *five hundred pounds a year*. Wonders are willingly told, and willingly heard. The truth is, that he was a man of known integrity, and active benevolence, by whose sollicitation the wealthy were persuaded to pay contributions to his charitable schemes. This influence he obtained by an example of liberality exerted to the utmost extent of his power, and was thus enabled to give more than he had. This account was received from the minister of the place; and I have preserved it, continues Johnson, that the praise of a good man being more credible, may be more solid. Narrations of romantic and impracticable virtue will be read with wonder, but that which is unattainable is recommended in vain; that good may be endeavoured, it must be shown to be possible*.

The name of the man of Rofs was JOHN KYRLE; he died in 1724, in the 90th year of his age; having been born in 1634 at White-House in the parish of Dymock in Gloucestershire†. He is said to have reserved only £50 a year for his own particular use out of his annual income, devoting the rest entirely to the purposes of philanthropy.

Supposing his charities divided into equal hebdomadal portions, what was the weekly distribution? *Ans.* £ 13s. 0d. $\frac{1}{2}$.

No. 262. POSTS.—Posts, in their present improved state, are of very modern invention; for, even in France, the first place of their adoption, they were, in 1619, still unprovided with a letter-office. The year 1635, during Charles the First's reign, presents the first regular establishment of the kind in England. A private person projected, in 1683, the useful conveyance of letters and small parcels, by the penny-post, throughout London and its suburbs.

The ancients, being destitute of the conveniency of posts, were accustomed when they took a long journey;

* Johnson's Life of Pope.

† See Bourn's Gazetteer.

and were desirous of sending back any news with uncommon expedition, to take tame pigeons with them. When they thought proper to write to their friends, they let one of these birds loose, with letters fastened to its neck : the bird, once released, would never cease its flight till it arrived at its nest and young ones.

Often through the fields of air
Song or billet-doux I bear.

ANACREON'S DOVE.

The custom of making pigeons the vehicles of postage still exists among the Turks, and in several eastern countries; and Tavernier observes, that, in his time*, the consul of Alexandretta transmitted diurnal intelligence by them to Aleppo. The same winged messengers have been used by the Dutch in sieges. When Haerlem was reduced to the last extremity, and on the point of opening its gates to a base and barbarous enemy, a design was formed to relieve it; and the intelligence, says Thuanus, was conveyed to the citizens by a letter which was tied under the wing of a pigeon. Crows were also sometimes employed as letter-bearers†; and Cecinna, a Roman knight in the interest of Pompey, and the particular friend of Cicero, used to bring up young swallows, and send them as messengers, to carry news to his friends.

It may be observed, that few institutions are replete with more advantages, or productive of more eventual consolation, than that of posts. Indeed, their utility, not to say necessity, in commercial concerns, is too obvious to admit of any doubt. The aids they administer in political transactions are little less apparent. Next to a free press, they are the grand underminers of despotic sovereignty. But it is in the more confined and humble scenes of social life, that they dispense comfort and diffuse joy, with a liberality which we seldom hear adequately acknowledged; although to them the absent parent, child, friend, and other endearing relatives, are repeatedly

* This celebrated traveller died at Moscow in 1689, aged 84. He was then on his seventh journey into the East.

† See Corvus, Exer. on the Globes.

indebted, not only for the removal of anxiety, and solace of dejection, but often even for the sole antidote of despondency*.

The Cyclopædia states the annual gross amount of our foreign and inland post-offices, so far back as the year 1764, to be £432,048†; what was the quarterly, monthly, and weekly income at that period? *Ans.* £108,012 quarterly, £36,004 monthly, £8,308 12s. 3d. ½ weekly.

No. 263. MAYOR OF LONDON.—A mayor is the chief magistrate of a corporation, who, in London, York, and Dublin, is called *Lord-Mayor*. He is chosen annually by the citizens out of the body of aldermen, whose number in the metropolis is 25, and who preside over the 25‡ wards of the city. The flattering title of *lord* is said to have been first annexed to that of mayor, in the time of Richard II. This happened in consequence of Walworth §, then mayor of London, having, with a blow of his dagger, stunned the famous Wat Tyler, and brought him to the ground (whom the king's other attendants instantly dispatched), in a conference which Tyler had with that monarch in Smithfield, A. D. 1381. But if the mayor of London obtained a new title by this transaction, the conduct of Walworth in it is not very honourable. The king had agreed to have an interview with Tyler; and the mayor of London ought not to have acted as an assassin on the occasion. Those who were concerned in the insurrection were certainly guilty of many indefensible actions; but they had real grievances to complain of; and it has been

* See on this subject Mr. Pratt's Gleanings in England, vol. i. letter 4th, 2d edit. and Gleanings in England, vol. ii. p. 172.

* † The revenue has been greatly increased by the establishment of mail-coaches. See Quest. 133, p. 73.

‡ London is, indeed, usually said to be divided into 26 wards; but this is a mistake, the 26th ward, Bridge Without is the Borough of Southwark, a nominal sinecure appointment given to the senior alderman, or father of the city.

Month Rev. for Oct 1790, p. 185.

§ Sir William Walworth was buried in St. Michael's church, Crooked-Lane, Cannon-Street, London.

observed, that "it is easy for the opulent, and those in elevated stations, to talk of the unreasonable discontents of the multitude, and their aptitude to sedition and revolt; but it would appear, upon an impartial inquiry, that there have been very few instances of very general risings among the common people, the primary cause of which has not been the oppressions of the poor, in some way or other, by the great and wealthy."

To support the dignity of his important and honourable office, the lord-mayor of London is allowed by the city the sum of £6,000; how much is that per month, week, and day? *Ans.* £500 per month; £115 7s. 8d. $\frac{1}{4}$ per week; £16 8s 9d. per day.

No. 264. BRITISH CONSTITUTION.—It has been justly observed, that our constitution is a government of *laws*, not of *persons*. *Allegiance* and *protection* are obligations that cannot subsist separately; when one fails, the other falls of course. The true etymology of the word **LOYALTY** (derived from the French word *loy*, law) is an obedience to the prince, in all his commands *according to law*; that is, to the *laws themselves*. The meaning of the old maxim, that **THE KING CAN DO NO WRONG**, is, that he has no *lawful power* to do wrong; and our constitution considers no power as **IRRESISTIBLE, BUT WHAT IS LAWFUL**.

That the English government ought to be a good government; that the persons and property of individuals ought to be well protected; and that the aged poor ought to be comfortably provided for; are points which, we imagine, no one will be inclined to controvert, who considers the amount of the taxes annually levied in England. The rate levied parochially for the maintenance of our poor only, produces, according to returns made to parliament, £5,000,000 yearly. How much is that per day? *Ans.* £13,698 12s. 7d. $\frac{1}{112}$.

No. 265. BRITISH MONARCHY.—It has been no less energetically than truly observed by Mr. Sheridan, that "a king of England is not seated on a solitary eminence of power; but seen in the co-existent branches of the legislature his *equals*; and in the LAW recognizes HIS SUPERIOR:"

SUPERIOR : " a grand constitutional maxim, which should be the *phylactery*, the *frontlet between the eyes*, of every Englishman ; which should be not only indelibly impressed upon his own heart, but taught diligently to his children.

The monarchy of the British kingdom is *limited and hereditary** ; both males and females being capable of succession. The king, however, notwithstanding the limitations to which the crown is subject, is one of the greatest monarchs reigning over a **FREE PEOPLE** ; from whom *solely* deriving his power, he is accountable to them for the delegated trust. A Briton, therefore, rejects with ineffable indignation and contempt, the slavish doctrine of " right divine" in kings, as well as its soul-annihilating concomitant, " the enormous faith of *many made for one* ;" he considers the *one* not only made by, but *for*, the *many* ; and he deems it to be the great constitutional doctrine of this country, that kings can only be secure in their royalty, while they make the felicity of their subjects, by a just administration of the laws, the rule and end of their government. To this purpose is the observation of Rapin. In a government like that of England, says that judicious and impartial historian, all the king's endeavours to usurp arbitrary power, are but so many steps to his own destruction. A king of England, said Gourville, a Frenchman, who will be the *man of his people*, is the greatest king in the world ; but if he will be any thing more,

* Seven instances, however, occur, from the time of William the Norman to the present period, in which the regular line has been broken ; and these deviations have been repeatedly authorized by express acts of the legislature.

See Dr. Towers's *Thoughts on the Commencement of a New Parliament*, Appendix, p. 128, &c.

It is evident, says Mr. Belsbam, that the title of George I. was founded solely on the choice of the parliament, *i. e.* of the people or nation ; and that the usual order of succession was entirely superseded : more than fifty persons prior in the order of succession being passed over in the act of William, which settled the crown of England on the House of Hanover. So that the rights of the **PEOPLE** were not only asserted, but exercised in their full extent ; and the family upon the throne is indisputably an *electEd family*, though the general law or rule of succession remains unaltered.

Memoirs, vol. i. p. 87, &c.

HE IS NOTHING AT ALL. By a fundamental law of the realm, the British sovereign must profess the PROTESTANT religion, neither can he marry a PAPIST.

His annual income, commonly called the civil list, is stated by some political writers at £900,000; by others at £1,000,000 sterling; how much is that per hour, supposing it to be the latter sum; and reckoning 8766 hours in the year? *Ans.* £114 1s. 6d. $\frac{1}{2}$.

No. 266. HOURLY VELOCITY OF THE EARTH.— It has been observed in the second question, that our earth is one of the planets belonging to the solar system. Its form has been stated in the 132d, where also its diurnal and annual motions have been slightly adverted to. The resumption of the subject will not, we presume, be found entirely useless to our young readers. The daily rotation of the earth causes the uniform succession of light and darkness. Our sublime poet Milton, who appears to have been greatly enamoured with the beauties of nature, has exerted his unrivalled powers in enhancing her charms in this alternation of day and night, in the following exquisite lines :

Sweet is the breath of morn, her rising sweet,
With charm of earliest birds; pleasant the sun,
When first on this delightful land he spreads
His orient beams, on herb, tree, fruit, and flow'rs,
Glist'ring with dew; fragrant the fertile earth
After soft show'rs; and sweet the coming on
Of grateful evening mild; then silent night
With this her solemn bird, and this fair moon,
And these the gems of heav'n, her starry train.

PARADISE LOST, Book IV.

The annual motion of the earth occasions the grateful vicissitude of the seasons, and the difference of the length of the days and nights. In this yearly course the earth is said to travel 596,088,000 English miles. What is the earth's rapidity per hour, the year containing 8,766 hours? *Ans.* 68,000 miles!

No. 267. ANSON'S VOYAGE ROUND THE WORLD.— In September 1740, a small squadron of ships, commanded

manded by Commodore Anson, set sail from St. Helen's, in the Isle of Wight, Hampshire, for the south sea, in order to annoy the Spaniards on the coast of Chili and Peru, in South America, and to co-operate occasionally with Admiral Vernon across the isthmus of Darien, which connects North and South America. The scheme is allowed to have been admirably well planned, but it was ruined by unnecessary delays and unforeseen accidents. Anson touched at the Madeiras*; then at St. Catherine's†. In passing the streights of Le Maire‡, and doubling Cape Horn§, the dangers that he encountered, and the difficulties that he surmounted, must excite surprise in most of the readers of this interesting and perilous voyage.

Perils and conflicts inexpressible

ANSON, with steady undespairing breast,
Endur'd, when o'er the various globe he chas'd
His country's foes. Fast-gather'd tempests rouz'd
Huge ocean, and involv'd him: all around
Whirlwind, and snow, and hail, and horror: now,
Rapidly, with the world of waters, down
Descending to the channels of the deep,
He view'd th' uncover'd bottom of th' abyfs,
And now the stars, upon the loftiest point
Toss'd of the sky-mix'd furies. Oft the burst
Of loudest thunder, with the dash of seas,
Tore the wild-flying sails and tumbling masts,
While flames, thick-flashing in the gloom, reveal'd
Ruins of decks, and shrouds, and sights of death.

DYER.

Previously to this most critical juncture, two of his ships had been separated from him in a violent storm. These, after putting in at Rio de Janeiro||, returned to Europe. Having accomplished the passage round Cape Horn, the commodore steered to Sacro¶; then to Juan

* In the Atlantic ocean, W. of Morocco in Africa.

† Coast of Brazil, South America; in about 29 degrees S. lat.

‡ Between Terra del Fuégo (an island S. of South America) and States-Island.

§ South part of Terra del Fuégo.

|| Coast of Brazil; in about 23 degrees S. lat.

¶ Coast of Chili, South America.

Fernandez*. In this healthful spot he continued till the valetudinary part of his men became convalescent. Putting to sea, they made prize of several vessels, and captured the town of Paita†, in which he found considerable booty.

Then Paita's walls, in warring flames involv'd,
His vengeance felt, and fair occasion gave
To shew humanity and continence,
To SCIPIO's not inferior.

DYER.

Bearing away from hence, they sailed to Quibo †; then to the bay of Acapulco §; and afterwards stretched across the South-Sea towards the Philippine isles in the East-Indies. In this passage the Gloucester was abandoned and sunk; the other vessels had been destroyed for want of men to navigate them; so that nothing now remained but the commodore's own ship, the CENTURION, and that but very indifferently manned; for the crew had been exceedingly thinned by sickness. Great were the hardships and miseries which they sustained, from the shattered condition of their ship, and from the scurvy, when they reached the plentiful island of Tinian ||, where they were supplied with necessary refreshments. Thence they prosecuted their voyage to Macao, an island near Canton in China. The chief object of the commodore's attention now, was the rich annual ship that sails between Acapulco in Mexico, and Manilla, one of the Philippine islands ¶. In hopes of intercepting her, he set sail from Canton,

* See Index.

† Peru, South America; in about 5 deg. S. lat.

‡ An island in the bay of Panama; N. W. part of Terra Firma, South America.

§ Coast of Mexico, North America; in about 17 deg. N. lat.

|| One of the Marian or Ladrone islands in the East-Indies.

¶ Since the establishment of a free trade in the Spanish colonies, which took place in 1783, the usual Acapulco ships, and other government traders, have been discontinued; and the commerce to the Manillas, and other parts, is carried on in private bottoms by free companies of merchants.

and

and steered his course back to the streights of Manilla*, near which she actually fell into his hands, after a short but vigorous engagement. With this valuable and long-looked-for prize he returned to Canton; from whence he proceeded to the Cape of Good Hope †, pursued his voyage to England, and arrived in safety at Spithead ‡ in June 1744, after an absence of 3 years and 9 months. See Chron. and Biog. Exer.

Lord Anson's voyage round the world was published in 1748; and no production of this kind ever met with a more favourable reception, four large impressions being sold off within a twelvemonth: it has been translated into most of the European languages; and still supports its reputation, having been repeatedly printed in various sizes. It was composed under his lordship's inspection; and, though it carries Mr. Walter's name in the title-page, is said to have been really written by Mr. Benjamin Robins §.

The galleon, or Manilla ship, had 600 hands on board when she was captured; the Centurion only 227, thirty of whom were boys. The cargo, at the lowest estimation, was computed to be worth £313,000 sterling ¶. Allowing two thirds of this sum to the commodore and his officers,

* Between Manilla and the island of Sauer. The ship was taken about 7 leagues N. E. of Cape Spirito Santo, in the last-mentioned island.

† There his wave-worn bark
Met, fought the proud Iberian, and o'ercame.

D Y X A .

‡ South part of Africa.

§ A famous road between Portsmouth and the Isle of Wight.

¶ Mr. Robins was a mathematician of great genius and eminence, born at Bath in 1707, and died at Madras in 1751, in the capacity of engineer-general to the East-India-Company.

|| Some value this ship at £400,000; and the other vessels and effects destroyed by Anson at £600,000: so that the damage done to the enemy in this expedition amounted to a million sterling. It must, however, be admitted; that though this fortunate commander enriched himself, the British nation was not indemnified for the expence of sitting him out; and the original design was entirely defeated.

and dividing the remainder equally among the men and boys belonging to the Centurion, how much had these last each? *Ans.* £459 12s. 4d. $\frac{1}{4}$.

No. 268. Divide the number of miles in the circumference of the earth at the equator, by all the arithmetical figures separately.

No. 269. Divide a million into as many parts as there are calendar months in a year.

No. 270. Divide a thirty thousand pound prize into as many parts as there are lunar months in a year.

No. 271. Divide the square* of twelve dozen, by the number of northern constellations in the zodiac.

No. 272. Divide the cube† of as many degrees as are contained in a quadrant, by the number of southern constellations in the zodiac.

No. 273. Divide the square of the number of counties contained in England and Wales, by the number of signs in the zodiac.

No. 274. Divide the cube of the number of counties in Wales, by the number of degrees in a sign of the zodiac.

No. 275. Thirty thousand pounds were offered for apprehending the young Pretender‡, after his defeat at the battle of Culloden, near Inverness, in Scotland, in 1746. Divide this sum into as many portions as there are drams in an ounce Avoirdupois.

No. 276. KING WILLIAM, at the solicitation of Lord Somers, granted the celebrated Addison a pension of three hundred pounds a year, to enable him to travel through Italy. Divide this sum into as many parts as there are gallons in a hoghead of ale.

No. 277. When STEELE's comedy of *The Conscious Lovers* was published, with a dedication to George I. his Majesty made the ingenious author a present of five hundred pounds. Divide this sum into as many parts as there are gallons in a hoghead of beer.

* See Square-Measure Table.

† See Cubic-Measure Table.

‡ See Chron. and Biog. Exer.

No. 278. If a hoghead of Herefordshire cider cost three times three guineas, what is that a pint?

No. 279. Paid three one-pound notes, the fourth part of a pound sterling, and the third part of a shilling, for a firkin of Cambridge butter; what was that a pound?

No. 280. Paid a hundred and two shillings for a hundred and forty-four yards of Coventry riband; what was that per yard?

No. 281. Paid a one-pound note, the fifth part of forty shillings, and the third part of a shilling, for a dozen and the third of a dozen of quartern loaves made in London; what was that per loaf?

No. 282. About 10,000 families, consisting of 50,000 men, women, and children, were relieved by the daily distributions of soups in London and Westminster, in the severe winter of 1799, at an expence to the subscribers, not exceeding a guinea for every five hundred and four meals of rich nourishing soup which those people received. How much was that a meal?

No. 283. The system of punishing on board the hulks, at Woolwich, commenced in 1776; and from that time until 1795, comprehending a period of nineteen years, seven thousand nine hundred and ninety-nine convicts were ordered to be punished by hard labour on the river Thames, and in Langstone and Portsmouth harbours: How many were committed annually on an average? Langstone is near Portsmouth.

No. 284. Suppose four dozen and a half of Limerick gloves cost eight angels and a shilling, how must they be sold per pair, to gain one third of the cost by the sale?

No. 285. The Hon. Thomas (now LORD) ERSKINE, who, from his unrivalled eloquence at the bar, has been styled "The English Cicero," received a thousand guineas for his exertions in favour of the brave Keppel, when that gallant admiral was tried by a court-martial*. Divide this sum into as many parts as there are inches in a yard.

No. 286. The ingenious Miss LINWOOD was, it has been asserted, once offered the immense sum of three thousand guineas for her copy in needle-work of the Salvator Mundi,

* See Chron. and Biog. Exer.

from a picture by Carlo Dolce. Divide this sum into as many parts as there are days in a year.

No. 287. Mrs. THRALE sold a copy of the letters which the learned Dr. Johnson, a native of Lichfield, had written to her, for five hundred pounds. Divide this sum into as many portions as there are bushels in a chaldron of coals.

No. 288. The ox lately shewn at Berwick-upon-Tweed, is said to have weighed four thousand four hundred and eighty pounds, and was sold for two hundred guineas*; what was that a pound?

No. 289. The capricious tyrant Henry VIII. had six wives, two of whom he beheaded. Catherine Parr, a native of Kendal, in Westmoreland, survived him, and enjoyed a legacy of £4000. Divide this sum into as many portions as there are days in a year.

No. 290. Paid six guineas for three dozen pounds of London wax candles; what was that a pound?

No. 291. HORSE-SHOEING.—It can be proved by incontestable evidence, says Beckmann, that the ancient Greeks and Romans endeavoured, by the means of some covering, to secure from injury the hoofs of their horses and other animals of burden; but it is equally certain, that our usual shoes, which are nailed on, were invented much later. Horse-shoes, however, are not absolutely necessary; horses in many countries are scarce, and in some they are not shod even at present. This is still the case in Ethiopia, in Japan, and in Tartary. In the ninth century horses, it is said, were not shod always, but in the time of frost, and on other particular occasions. The practice of shoeing appears to have been introduced into England by William the conqueror †.

DEMOSTHENES, the famous Grecian orator, Ray, the Naturalist ‡, Parsons, an intriguing Jesuit in the time of Queen Elizabeth, and Thomas Cromwell, earl of Essex §,

* See Ox, Index.

† See Beckmann's History of Inventions, vol. ii. p. 286, &c.

‡ See Chron. and Biog. Essex.

§ See Chron. and Biog. Essex.

were all the sons of blacksmiths. Paid a two-pound note, the fifth part of a pound sterling, and the third part of a shilling, for shoeing a horse fourteen times; what was that a time?

No. 292. Rice is brought to us from the East-Indies, and from the Carolinas, in North-America. If the fourth part of a hundred weight cost the fifth part of a two pound note, and the sixth part of a shilling, what is that a lb?

No. 293. Paid a one-pound note, an angel, and three-fourths of a shilling, for four stone and a half of meat; what was that a lb?

No. 294. Pay a servant's wages for nine weeks, at eighteen guineas a year.

No. 295. Pay a gardener's wages for fifteen days, at twenty-eight guineas a year.

No. 296. Pay a footman's wages for twenty-five days, at twenty guineas a year.

No. 297. Paid a hundred and seventeen shillings for a chaldron and a half of Newcastle coals; what was that per bushel?

No. 298. Witney, in Oxfordshire, and Barcelona, in Spain, are noted for blankets. If twelve dozen pair cost two hundred and sixteen pounds, what is that a pair?

No. 299. Vast numbers of knives and other cutlery goods are made at Sheffield and Birmingham; they were first made in the former town about the year 1563. If six dozen elegant pen-knives cost twenty-seven pounds, what is that per knife?

No. 300. Paid eight angels and sixteen shillings for four dozen pair of Limerick gloves; what was that a pair?

No. 301. Turnips were brought into this country from Hanover, in Germany; they are now much cultivated in Norfolk. If twenty bushels cost two angels, what is that a peck?

No. 302. Such was the charitable disposition of Alfred the Great, a native of Wantage, that when reduced to his last loaf of bread, he divided it with a mendicant pilgrim. If as many quarters leaves as there are inches

inches in a foot cost eight shillings and sixpence, what is that a loaf?

No. 303. If as many shirts as there are hours in a natural day cost for the making eight angels and the fifth part of a pound sterling, what is that a shirt?

No. 304. If forty pair of Northamptonshire shoes cost twelve pounds sterling, how must they be sold per pair to gain a shilling a pair by the sale?

No. 305. Paid nineteen shillings and sixpence for a Cheshire cheese weighing thirty-six pounds; required the price per lb?

No. 306. Paid three one pound notes and nine shillings for six dozen of candles; what is that a lb?

No. 307. DELFT, in Holland, Faenza and Urbino*, in Italy, Fayence in the department of Var, France, and Estremos, in Portugal, have acquired celebrity for the excellency of their earthen ware: at present Etruria, in Staffordshire, manufactures an exquisite sort. The earthen lamp which Epictetus, the philosopher, employed in his study sold, after his death, for 3,000 drachmas; valuing these at £96 17s. 6d. what was the worth of one drachma?

No. 308. DUNSTABLE, in England, and Leghorn, in Italy, are noted for straw-hats. If as many hats as there are gallons in a puncheon of wine cost a hundred and fifty-three pounds six shillings, what is the value of one hat?

No. 309. The inhabitants of Ailebury, in Buckinghamshire, have the art of rearing early ducklings; which is carried to such an extent, that it is said three thousand pounds have been received in this town for the supply of the London market in six weeks, usually terminating in March. Divide this sum into as many parts as there are hours in a week.

No. 310. GRAPES.—In Caramania, a country east of Persia in Asia, clusters of grapes three feet long have been gathered. There were excellent grapes in Palestine. The bunch which was cut in the valley of

* Raphael, the illustrious painter and architect, was a native of this city. See Chron. and Biog. Exer. 4th edit.

Eschol, in the south of Judah, may give us an idea how large this fruit was in that country: see Numbers xiii. 24. Travellers mention some still growing there of a prodigious size, weighing ten or twelve pounds a bunch; and others assert, that the grapes in the valley of Hebron were so large, that two men could scarcely carry one cluster, See Calmet's Dict. of the Bible.

Anacreon, the famous lyric poet of Teos*, in Ionia, Asia Minor, after living to his 85th year in a continual scene of Bacchanalian intemperance, was choked with a *grape-stone* †. He flourished about 500 years B. C. His odes are still extant; and the uncommon sweetness and elegance of his poetry have been the admiration of every age and country.

The two celebrated grape-trees of Hampton-Court, in Middlesex, and Valentines, in Essex, are said to have been amazingly productive in the year 1801; the former having yielded 1 ton, 6 cwt. 56 lb weight; and the latter 1 ton, 2 cwt. 27 lb. For one year's crop of the last-mentioned vine, the late Mr. Weltjie, about 20 years ago, gave the sum of four hundred guineas. Divide this sum into as many parts as there are lunar months in a year.

No. 311. The DUKE OF BEDFORD, father to the virtuous Lord Russel, who fell an innocent victim to the intrigues of party-rage, offered a hundred thousand pounds to save his son's life †. Divide this sum into as many parts as there are zones on the earth, added to the number of Muses and Graces in fabulous history.

No. 312. That most eminent physician and pious Christian, BOERHAAVE §, a native of Voorhout, near Leyden, in Holland, died in 1737, in the 70th year of his age, leaving a fortune of two hundred thousand pounds sterling, though at his first setting out in life he was

* Hence this inimitable bard is often styled "The tuneful Teian."

† It is related of Jesid, a Persian prince, that in a frolic he threw a large grape, the product of Palestine, at one of his most beloved women, who hastily putting it in her mouth to eat it, let it slip into her throat, where it stopped and caused instantaneous suffocation.

‡ See Russel, Index. § See Chron. and Biog. Exer.

obliged

obliged to teach the mathematics to obtain a necessary support. Divide the above sum into as many parts as there are farthings in the third part of a guinea.

No. 313. The four hundred shekels of silver, which Abraham gave to Ephron for the cave of Machpelah*, for a burying-ground, are valued at forty-six pounds five shillings: What is the value of one shekel?

No. 314. The golden ear rings of half a shekel weight, and the two bracelets of ten shekels, which Abraham's servant gave to Rebekah, are valued together at nineteen pounds sixteen shillings. Divide that sum into as many parts as there are signs in the zodiac.

No. 315. JOSEPH, when he discovered himself to his brethren, in Egypt, gave each of them change of raiment; but to Benjamin he gave five changes of raiment, and three hundred pieces of silver. Estimating these at thirty-five pounds sterling, what is the value of one piece?

No. 316. The five thousand five hundred pieces of silver that the lords of the Philistines† offered to Dalilah to betray Samson‡ into their hands, have been estimated at six hundred and forty-one pounds, thirteen shillings, and four-pence sterling: What is the value of one piece?

No. 317. The haughty HAMAN, to be revenged of Mordecai for not doing him reverence, offered King Ahafuerus§ ten thousand talents of silver to have the Jews

* See Index.

† The Philistines were a people that came from the isle of Caphtory *i. e.* Crete, into Asia, and were a powerful people, even in Abraham's time, since they had then kings and considerable cities. The name Palestine comes from Philistine, although these people possessed but a small part of this country. Palestine, Judea, Land of Canaan, the Land of Israel, and the Holy Land, are synonyma.

‡ Samson was the son of Manaoh, of the tribe of Dan, born 1256 B. C. He lived in the whole about 38 years; and was judge of Israel about 20 years. Judges xvi. 20. St. Paul places him among those whose faith was commended and recompensed, Heb. xi. 32. He was imprisoned at Gaza about a year, and at his death, by pulling down the temple of the god Dagon, killed about 3,000 Philistines.

§ The scene of this transaction was the palace of Shushan, or Susa, the capital of Elam, *i. e.* Persia. At this place the kings of Persia passed the winter, and the summer at Ecbatana. Daniel, it is said, was interred at Shushan; and Nehemiah was at Shushan when he obtained permission to repair the walls of Jerusalem. Nehemiah l. 1. Read also the book of Esther.

destroyed.

destroyed. The talents are valued at three millions sterling. Divide that sum into as many portions as a clock strikes strokes in the course of twelve hours.

No. 318. Shortly after the servant, who owed ten thousand talents, had been forgiven his enormous debt by his merciful master, he met one of his own debtors who owed him only one hundred pence, and whom he ungenerously cast into prison. Valuing the pence at three pounds, two shillings, and sixpence, what is the worth of one?

No. 319. When LISBON, the capital of Portugal, was nearly destroyed by an earthquake in 1755, the British parliament humanely presented the surviving sufferers with a hundred thousand pounds*. Divide this sum into as many portions as there are degrees in a quadrant.

No. 320. In 1655, the Duke of Savoy determined to compel his reformed subjects in the vallies of Piedmont to embrace Popery, or quit their country. All who remained and refused to be converted, with their wives and children, suffered a most barbarous massacre. Those who escaped fled into the mountains, whence they sent agents into England, to Cromwell, for relief. He instantly commanded a solemn fast, and promoted a general contribution, in which forty thousand pounds were collected. The persecution was suspended, the duke recalled his army, and the surviving inhabitants were reinstated in their cottages, and the peaceful exercise of their religion. Divide this sum into as many parts as there are days contained in all the months of the year which contain thirty days each.

No. 321. DRESDEN, in Germany, Valenciennes and Mechlin, in the Netherlands, and Buckinghamshire, in England, have been long famous for the making of lace. If as many yards of lace as there are pence in half a guinea cost £89 15s. 6d. what is that per yard?

No. 322. VIRGIL shewed his piety to his parents by sending them annually such supplies, as long as they lived, as gave them reason to thank Providence, who had blessed them with such a son. He died worth £75,000 sterling.

* See Chron. and Biog. Exer. art. Lisbon.

the half of which was left to his particular friends, including a legacy to Augustus; and the other half to his own relations. Virgil was born at the village of Andes, near Mantua, was taken ill at Megara, a town between Corinth and Athens, died at Brundisium, and was buried at Naples*. Subtract as many guineas from his whole fortune as Lazarus of Bethany continued days in the grave before he was raised by Our Saviour, and divide the remainder into as many parts as the temple of Jerusalem was years in building.

No. 323. Sheldon, Archbishop of Canterbury, whose amiable and benevolent disposition has ensured the remembrance of his virtues to the latest posterity, expended in acts of benevolence £60,000 in the space of fourteen years: How much is that per annum on an average?

PROMISCUOUS QUESTIONS,

DESIGNED AS EXERCISES IN THE FOREGOING RULES.

No. 324. Find the amount of one of each of the gold, silver, and copper coins, now (1810) current in England.

No. 325. SAUSAGE is a roll or ball made commonly of pork or veal, and sometimes of beef, minced very small, with salt and spice. Bologna, in Italy, has been long famous for sausages and lap-dogs. The father of Æschines, a celebrated orator, contemporary with Demosthenes, is said to have been a sausage-maker at Athens. Pay for as many sausages, at two-pence farthing each, as there are pounds in a hundred weight, and find the change out of a guinea †.

* See Epitaph, Index, and Chron. and Biog. Exer.

† The Romans, when their capital was besieged by the Goths, made sausages of mules' flesh; unwholesome, if the animals had died of the plague; otherwise, the famous Bologna sausages are said to be made of ass' flesh.

No. 326. The Rev. GEORGE WALKER, so justly famous for his defence of Londonderry*, in the North of Ireland, in 1689, received £5,000 as a present from the English parliament, and was created bishop of the place which he had so nobly defended. Divide the gift into as many parts as there are lunar months in a year.

No. 327. Suppose a family should spend, at Bath, the fourth part of a hundred pounds; at Bristol, nineteen guineas; at Weymouth, twice the last-mentioned sum; at Brighton, as many five-pound notes as there are planets in the solar system (including Ceres, Pallas, Juno, and Vesta); at Margate and Ramsgate, ten guineas each; and at Scarborough, nineteen pounds, nineteen shillings, and eleven-pence three farthings: What was expended in all?

No. 328. HAMS are brought from Westphalia, in Germany, Bayonne, in France, and Westmoreland, in England. If a ham, weighing five times five pounds, cost three angels, and the same number of half-crowns, what was the price per lb?

No. 329. BERWICK on the Tweed exports immense quantities of eggs for the use of the sugar-refiners and wine-coopers in London. At Buda, in Hungary, the natural heat of the baths is so great, that travellers assure us an egg can be boiled in them in a few minutes †. How many eggs, at five farthings each, can be purchased for the fourth part of a pound sterling, the sixth part of a shilling, and the half of a penny?

No. 330. DUDLEY, in Worcestershire, is noted for its manufactory of nails. Jael killed Sisera in a treacherous manner, by driving a nail into his temple, while he lay asleep, after his defeat near Mount Tabor. If a hundred weight of nails cost a guinea, what is that per lb?

No. 331. TIN is a metal produced in the earth; it was found in Cornwall so early as 700 years before the

* See Chron. and Biog. Exer. art. Londonderry, Boyne, and Walker.

† Mr. Barrow, in his Voyage to Cochin China, says, that in the island of Amsterdam, in the Indian ocean, they found Thermal Springs in which the temperature was that of boiling water. Lat. 39 South; Long. 77 East.

Hot springs are also found in Iceland and other places.

birth of Christ. Pay for six tin articles, at the third of a guinea each; seven, at the fourth part of a pound each; eight, at the third part of a shilling each; and a dozen, at eleven-pence three farthings each; and find the amount of the whole, and the change out of a twenty-pound note.

No. 332. About thirty years ago, a cauliflower was an usual present from England to Portugal, and the person who received it made a feast; it is now one of the best productions of the Portuguese garden: How many cauliflowers, at 2*d.* $\frac{1}{4}$. each, can be bought for five shillings and eight-pence three farthings?

No. 333. **INK** is a black liquor used in writing, generally made of galls, copperas, and gum arabic. An infusion of galls and iron filings will also make an exceedingly black and durable ink. The ancient black inks were composed of soot or ivory black; but they had likewise inks of various colours, as red, gold and silver, purple, &c. &c. Pay for ten gallons of ink, at sixpence three farthings a quart, and find the change out of a two-pound note.

No. 334. **INDIAN INK** is a valuable black for water-colours, brought from China, and other parts of the East-Indies, sometimes in large rolls, but more commonly in small quadrangular cakes, and generally marked with Chinese characters; it is composed of fine lamp-black and animal glue. How many cakes, at one shilling each, can be purchased for three-fourths of a pound sterling?

No. 335. **RED INK** is usually prepared by infusing the raspings of Brasil wood in vinegar, and boiling the infusion, with the addition of gum arabic, alum, and white sugar; but it may be made of vermilion, the glair of eggs, white sugar or sugar-candy powdered, and spirits of wine. If two gallons of red ink cost as many pence as there are inches in a square foot, what is the value of half a pint?

No. 336. The corporation of Stratford-upon-Avon (the birth and burial place of Shakspeare) presented the late eminent actor, Garrick, with the freedom of their borough, in a box made from a mulberry-tree which had been planted by that immortal bard. Mulberry-trees were first

first planted in England about the year 1609. How many pottles of mulberries can be bought for a guinea and two-thirds of a shilling, at the twelfth part of a pound sterling per pottle?

No. 337. **LOBSTERS** are caught in great plenty near Cromer in Norfolk, at Aldborough in Suffolk, and at Chichester in Sussex. If twenty-four lobsters cost a guinea, how must they be sold a-piece to gain a third part of the purchase-money by the sale?

No. 338. **METHWOLD**, in Norfolk, is famous for excellent rabbits, generally called Mevil rabbits. If a dozen are bought for the tenth part of a pound sterling each, how must they be sold a-piece to gain a fourth part of the purchase-money by the sale?

No. 339. The justly celebrated **TILLOTSON**, archbishop of Canterbury, left, at his death, nothing to his family but the copy of his posthumous sermons, which afterwards sold for two thousand five hundred guineas. King William, by whom the archbishop was much beloved and esteemed, granted his widow an annuity of six hundred pounds. How many seven-shilling pieces are in the former sum, and nobles in the latter?

No. 340. If a bill due at Bristol amount to seven-eighths of a pound sterling, what would remain out of a one-pound note after it was discharged?

No. 341. If a person at Bath earn one-eighth of a pound sterling a day, excluding Sundays, how much does he earn in a year?

No. 342. **PINS** are made of brass wire. Copper is converted into brass by means of lapis calaminaris. Ten millions of pins are said to be made in Gloucestershire every week; how many are made in a year?

No. 343. How many seven-shilling pieces ought to be received at Carlisle, for as many guineas as there are farthings in a guinea?

No. 344. How many steps, of three feet each, must be taken as a walk from the Royal-Exchange to Richmond, the distance being so many miles as there were apostles selected from his disciples by Our Saviour to propagate Christianity in the Holy Land?

No. 345. How many times does a wheel of eight yards in circumference turn round between London and Worcester?

Worcester, the distance being as many miles as there are pounds in a hundred weight?

No. 346. The snow of MOUNT ETNA*, in Sicily, forms a considerable article of commerce, being purchased by the inhabitants of Sicily and Naples to cool their liquors. Lemonade and iced water are carried about the streets in Naples, and sold in quantities that cost no more than a halfpenny. At Madrid, cold water fresh from the fountains, is cried about the streets, and sold at a farthing a glass. How many such portions could be purchased for the twelfth part of a pound sterling?

No. 347. If the fourth part of a firkin of Devon butter cost 7-8ths of a pound sterling, how much is that a pound?

No. 348. House expences at Warwick being five hundred pounds a year, how much is that per quarter, per month, per week, and per day.

No. 349. A servant's wages at Malvern, being eighteen guineas a year, how much is that per day, per week, and per month?

No. 350. A servant at Manchester having received at various times a guinea, a crown, a half crown, three shillings, and nine-pence three farthings, on account of a quarter's wages, at the rate of twelve guineas a year, what remained due?

No. 351. COLCHESTER in Essex, and Milton and Queenborough in Kent, are particularly celebrated for fine oysters. Montanus, a famous Roman epicure, is commemorated by Juvenal, a celebrated Latin author, for so exquisite a taste, that he knew the oysters of Rutupian bay at the first taste. This bay was in the vicinity of Sandwich, in Kent, and is at present, in consequence of the receding of the sea, a fertile meadow, affording the most luxuriant pasture for cattle. If a barrel of oysters were purchased for the fourth part of a guinea, and sold

* Pindar, the famous lyric poet, among his bold metaphors describes Etna as "the nurse of snow through the entire year," and Theocritus, another Greek poet, in one of his Idylls, speaks of "Crystal springs, more cool than Etna's snow." See Exer. on the Globes art. Pindar; and Chron. and Biog. Exer. art. Theocritus.

† Juvenal and Pliny assure us, that Sandwich oysters were conveyed Rome.

For the third of a guinea, what would be gained by the sale of as many barrels as there are planets in the solar system, including Ceres, Pallas, Juno, and Vesta.

No. 352. SALT is either procured from rocks in the earth, from salt springs, or from sea water. The famous salt-mines of Wielitska, near Cracow, in Poland, have been worked six hundred years, and yet present no appearance of being exhausted. Esperie, in Hungary, has also a noted salt-mine. Lymington, in Hampshire, though its manufacture is greatly on the decline, still makes various kinds of excellent salt, both medical and culinary; there is an admirable salt-spring at Droitwich, near Worcester, and Cheshire abounds in saline waters. The clear annual revenue accruing to Government from the duty on salt that is made in this last county, was stated at two hundred thousand pounds before the late advance took place. Divide this sum into quarterly, monthly, weekly, and daily portions.

No. 353. AFRICIUS, a noted Roman glutton, is said to have spent in his kitchen the sum of eight hundred and seven thousand two hundred and ninety-one pounds, thirteen shillings and four-pence; and having only four-score thousand pounds left, he poisoned himself lest he should be starved; add these two sums together, and divide the amount into as many parts as there are farthings in a guinea.

No. 354. SILK is the production of a little insect called a silk-worm. Multitudes of these are bred in Italy, Spain, Persia, &c. &c. What is the value of a silk gown, containing nine yards, at the third part of a guinea a yard; trimming, three-fourths of a pound sterling, and making, the fourth part of a guinea?

No. 355. QUEEN ELIZABETH, who was born at Greenwich, died at Richmond in the year 1603; how long has her Majesty been dead this present year, one thousand eight hundred and ten?

No. 356. The BIRTH-PLACE or residence of genius is always interesting; and cold and callous must be the mind which can contemplate either of them without emotion. What numbers flock to Stratford-upon-Avon to view the spot and trace the steps which Shakspeare trod. Pope's villa at Twickenham is the delight of every person

of taste; and Stoke-Pogeis, the retreat of Gray, where he wrote his admirable Church-Yard Elegy, will attract permanent notice. The village of Hackney was long the favourite residence of that elegant writer, acute critic, and profound scholar, Gilbert Wakefield, where he died in 1801, and was interred at Richmond, in Surrey. Suppose the distance between Hackney and Richmond to be fourteen miles, how many steps, of two feet and three quarters each, must a person take to walk from the former to the latter place?

No. 357. HOT-HOUSES in gardens are constructed either to rear or preserve tender plants, which are indigenous to foreign countries. By this means the pine-apple, (from the Brasils) coffee-shrub, cinnamon-tree, and numberless delicate exotics, are brought to a great degree of perfection at Kew and many other places in England. Subtract the value of as many pine-apples, at three half crowns each, as there are counties in the Southern province of Ireland, from as many guineas as the amiable Edward VI. reigned years.

No. 358. The House of Commons, in 1802, voted a remuneration of ten thousand pounds to Dr. JENNER, of Berkeley, in Gloucestershire, for his invaluable discovery of the vaccine inoculation; which, by saving millions of victims from an untimely grave, will prove an inestimable blessing to the whole human race.

Ho well deserves his country's meed
By whom the peerless blessing came;
And thousands, from destruction freed,
Shall raptur'd speak of JENNER'S name.

NATH. BLOOMFIELD.

Divide the above sum into as many portions as there are farthings in a penny, a shilling, half crown, a crown, a seven-shilling piece, and a half a guinea, added together.

No. 359. SAFFRON is of a deep orange colour, and a very strong aromatic odour; it is used in medicine as a cordial, and was formerly much esteemed in cookery. It gives a fine bright yellow dye*. That produced in

* It was first brought into England in the reign of Edward the Third, probably from Arabia, as the word is Arabic. It has been cultivated in Carolina since the year 1758.

England is generally esteemed the best ; it is chiefly cultivated in Essex, between Cambridge and Saffron Walden, and is gathered in September. Find the value of as many ounces of saffron, at fourteen pence three farthings an ounce, as there are counties in the northern province of Ireland.

No. 360. CORREGGIO, so called from Correggio, a town near Modena, in the north of Italy, was a most extraordinary painter. He spent the greatest part of his life at Parma, and died much lamented in 1534, at the premature age of 40. The cause of his death was a little singular. Going to receive fifty crowns for a piece that he had done, he was paid it in a sort of copper money. This was a great weight, and he had twelve miles to carry it in the midst of summer. He was overheated and fatigued ; in which condition indiscreetly drinking cold water, he brought on a pleurisy, which put an end to his life. His *La Notte*, the *Night*, in the Dresden gallery, is esteemed one of the finest pictures in the world. Valuing the crowns at four shillings and nine-pence farthing each, what is their amount ?

No. 361. AN UNIVERSITY is a school where the arts and sciences are taught ; or a corporation instituted for the privilege of conferring honorary degrees for the encouragement of learning. Oxford and Cambridge are the English Universities. That celebrated physician, Dr. Radcliffe, bequeathed the sum of forty thousand pounds to found a new library at Oxford, now called the Radclivian library, which was opened in 1749, having been fourteen years in building. Multiply that sum by the number of counties in the Eastern province of Ireland, and bring the total into farthings.

No. 362. A bottle of glass was made at Leith, near Edinburgh, in the year 1747, that held two hogheads : Supposing these to have been wine hogheads, what would have been their value at half a dollar per pint ?

No. 363. AN OBSERVATORY is a place where astronomical observations are made. The Royal Observatory in Greenwich-Park was begun by order of Charles II. in 1674. The astronomical instruments in the observatory at Oxford cost eleven hundred pounds, exclusive of a reflecting telescope presented by the Duke of Marlborough, which

which cost a thousand pounds. Add these two sums together, multiply the total by the number of counties in the Western province of Ireland, and bring the sum thus increased, into dollars of the present currency (1810).

No. 364. ASYLUM FOR THE BLIND.—Of all charitable institutions*, one that provides for the education of the BLIND, is, perhaps, the most laudable. It relieves human beings, whose condition is, without such relief, at once the most helpless and the most disconsolate. These unfortunate objects may apply to themselves the pathetic lament of Milton :

With the year
Seasons return ; but not to us returns
Day, or the sweet approach of ev'n or morn,
Or sight of vernal bloom, or summer's rose,
Or flocks, or herds, or human face divine ;
But cloud instead, and ever-during dark
Surrounds us ; from the cheerful ways of men
Cut off ; and, for the Book of Knowledge fair,
Presented with a universal blank !——

The *indigent blind*, admitted to the benefit of such an institution, become almost as if they received their sight. A new day-spring of cheerfulness is let in upon their minds ; and they are taught to practise arts by which, with honest industry, they may, in independence and honour, earn subsistence for themselves.

Here (says Mr. Warner, speaking of the Bristol establishment, which was formed in 1793) they are taught to earn their livelihood by the labour of their hands ; and by these means relieved from that most distressing of all convictions, the conviction of being a burthen on society. Their employments are of several sorts ; that of the males is chiefly basket-making ; of the females, spinning, and making laces for women's stays. No sight can be more interesting or affecting than this little seminary, its scholars busied in their respective avocations. All is cheerfulness, animation, and industry ; escaped from that melancholy

* See English Charity, Index.

mental vacuity, that necessary inaction which the privation of sight induces, these unfortunate objects feel a felicity in employment, not to be conceived by those who are in the possession of vision. The eagerness with which they receive instruction, and the inflexible patience and perseverance they display in endeavouring to profit by it, strongly mark those natural principles ingrafted in man, the love of action, and the desire of independence. Those who protect and manage such establishments might (if charity were disposed to "vaunt itself, or to be puffed up") proclaim in the words of the patriarch of Uz*, "We are eyes to the blind."

Lonely blindness here can meet
Kindred woes, and converse sweet;
Torpid once, can learn to smile
Proudly o'er its useful toil.

HE, who deigned for man to die,
Op'd on day the darken'd eye;
Humbly copy—thou canst feel—
Give thine alms—thou canst not heal.

W. SMYTH.

The receipts for work done in 1802 at the *Bristol Asylum* for the *Indigent Blind*, amounted to £438 19s. 6d†.

The Rev. W. Hetherington, an English divine who died in 1778, left £20,000 as a perpetual fund for the relief of fifty blind persons with £10 a year.

Add the bequest and the sum earned in the *Bristol Asylum* together, and divide the total by the number of days which our Saviour was tempted in the wilderness.

N. B. There is an *Asylum* for the indigent blind established at *Liverpool*, and another in the vicinity of *Vauxhall* near *London*.

* Some of the most celebrated geographers are at variance concerning the situation of Job's country, the Land of Uz; Dr. Wells supposes that it denoted the environs of *Damascus*, comprehending a considerable part of *Arabia Petræa*. See *Chron. and Biog. Exer.* 4th edit. art. *Job*.

† See the *Monthly Mag.* for July 1804.

R E D U C T I O N

IS the method of bringing numbers from one name or denomination to another, so as still to retain the same value; and is performed by Multiplication and Division: by the former, great names are brought into less; and by the latter, less are brought into greater.

E X A M P L E S.

No. 365: BISHOP GIBSON.—A generous action of this distinguished dignitary deserves to be recorded. Dr. Crow, his chaplain, bequeathed him £2,500; but the bishop, understanding that the doctor had left some poor relations, nobly resigned the whole legacy in their favour. Edmund Gibson, bishop of London, was born at Knipe, in Westmoreland, in 1669, and died September 6, 1748.

How many farthings did the legacy contain? *Ans.* 2,400,000.

No. 366. FARTHING.—Farthing is the smallest English coin; the fourth part of a penny or integer, on which account it was anciently called *fourthing*. Farthing of gold, was a coin used in ancient times, containing in value the fourth part of a noble, or 20d. silver, and in weight the sixth part of an ounce in gold. Farthings were coined in silver by Henry VIII. 1522; in copper by Charles II. It has been asserted, that only three farthings were coined in the reign of Queen Anne; hence curious collectors of coins have, it is said, given a considerable sum for one of them.

Farthing, among the Romans, was a small piece of brass money. In our English version of the New Testament both *assarion* and *quadran*s are rendered farthing, but they were not similar; for the former was the tenth part of a Roman *denarius*, or about *three farthings* of our money, Matt. x. 29. and the latter was equal to *two mites*, *i. e.* about a fifth part of our farthing. Mark xii. 42.

“ Date

“ Date obolum* Belisario,”—“ Give a *farthing* to Belisarius,” is a phrase sometimes applied to fallen greatness; this brave and victorious general not only having been reduced to beg in his old age, but, according to some authors, deprived of sight by the command of his ungrateful master, the Emperor Justinian.

In beggary's meanest abject state,
See Belisarius blind† and great;
Greater than when, the battle won,
High on the splendid car of victory he shone‡.

KING OF PRUSSIA.

In petty dealings, farthings were formerly extremely useful, being deemed equivalent to the value of a number of articles; but, in the very extraordinary depreciation of money that has lately taken place, they have almost totally lost their estimation as a species of coin in this country.

The cotton-wool used in the English manufactures in 1787, was valued at 7,200,000,000 farthings. How many pounds sterling are in that number? *Ans.* £7,500,000.

* The obolus was an ancient silver money of Athens, actually worth somewhat more than a penny farthing sterling; but in the above popular phrase it is commonly translated by the word farthing or halfpenny.

† Many eminent characters have sustained the loss of their visual sense; of this number were Homer, Ossian, Zisca, Gower, Milton, Saunderson, Blacklock, Sir John Fielding, Stanley, Strong, a king of Bohemia who was slain at the battle of Cressy, Euthycus who was killed with the heroes of Thermopylæ, and Robert, Duke of Normandy, whose eyes were extinguished by the cruelty of his unnatural brother, Henry I. He was a captive in Cardiff castle 28 years.

‡ Belisarius once entered Constantinople in triumph; and on account of his great exploits, he was long regarded as the saviour of the empire. Medals are yet extant bearing this inscription, *Belisarius gloria Romanorum*.—That he was deprived of his eyes, and reduced by envy to beg his bread, is a fiction of later times, which has obtained credit, or rather favour, as a strange example of the vicissitudes of fortune.

GIBBON, v. iv. p. 319.

No. 367. **HANDEL'S COMMEMORATION.**—Handel's first commemoration at Westminster-Abbey, in 1784*, is said to have yielded £12,746. How many crowns, half crowns, pence, and farthings, are in that sum? *Ans.* 50,984 crowns; 101,968 half crowns; 3,059,040 pence; 12,236,160 farthings.

No. 368. **COUNTESS OF HUNTINGDON.**—This benevolent lady is said to have expended in the course of her life in public and private acts of charity £100,000 sterling†. Add £99 19s. 11d. $\frac{1}{2}$. to the above sum, and bring the whole into farthings. *Ans.* 96,095,999 farthings.

No. 369. **THE SPLENDID SHILLING.**—This is the title of one of the finest burlesque poems in our language. It abounds in exquisite strokes of humour and raillery; and has besides, as Dr. Johnson remarks, the uncommon merit of an original. By contrasting the happiness of a full and empty purse it may, moreover, contain a moral of some importance to youth. They may hence learn (to use the phraseology of the facetious dean of St. Patrick's) *to look upon a shilling as a serious thing*; since, as one of our bards sings,

Happy the man who, void of cares and strife,
In silken or in leathern purse retains
A splendid shilling! he, nor hears with pain
New oysters cry'd, nor sighs for cheerful ale.

PHILIPS.

Suppose a person to have in a purse the sum mentioned in this question, a guinea, three crown pieces, seven half crowns, four sixpences, and three silver threepences; how many farthings would he have in all? *Ans.* 2748 farthings.

No. 370. **A GUINEA.**—Our gold coin called a guinea, whose value is 21 shillings, received that deno-

* See Chron. and Biog. Exer. 4th edit. May 26, 1784.

† See Chron. and Biog. Exer. 4th edit.

mination,

mination, because the gold, of which the first was struck, had been brought from a part of Africa so named. It formerly bore the impression of an elephant on the same account.

“ O! thou, who rulest ev'ry head,
 “ That plods by day, or schemes in bed,
 “ Thou GUINEA! stamp of Britain's love!
 “ Thou *Georgium Sidus*, from above!
 “ How thou canst cheer the poor man's heart!
 “ Thou then do'st act thy noblest part.
 “ But when thou tak'st a vicious freak,
 “ To bribe the knave, corrupt the weak,
 “ Or liv'st the heartless miser's joy,
 “ Thou then art worse than base alloy.”

Sir Nicholas Crispe, a merchant of London, gave and procured Charles the First in his exigencies £100,000; and, when he was driven from the exchange, raised a regiment and commanded it*.

Subtract a guinea from the sum above-mentioned, and bring the remainder into farthings. *Ans.* 95,998,992 farthings.

No. 371. POPE'S HOMER.—Of the siege of Troy, which furnished the subject of the Iliad and the Odyssey, written by Homer, some account has been given in question the eleventh, to which our young readers are requested to recur.

A translation of the Iliad, with notes, was begun by Mr. Pope in 1712; and by his own diligence, with such help as kindness or money could procure him, he finally completed the version in 1720. A work which Dr. Johnson styles a poetical wonder: a performance which no age or nation can pretend to equal; the noblest version of poetry that the world has ever seen. Pope, continues the doctor, cultivated our language with so much diligence and art, that he has left in his Homer a treasure of poetical elegancies to posterity; for since its appearance no writer, however deficient in other powers, has wanted melody. Soon after the publication of the Iliad, Pope undertook,

* Dr. Johnson's Life of Waller.

with the assistance of Fenton and Broome, to translate the *Odyssey*, which was accomplished in 1725; and deserves, according to Dr. Johnson, the same general praise as the translation of the *Iliad*.

Pope received for the *Iliad*, including subscriptions and the sale of the copy-right, the sum of £5320 4s.

With part of this money he purchased a house at Twickenham, to which his residence afterward, procured so much celebrity. Pope died in 1744, and was buried at Twickenham*.

How many farthings are contained in the sum above mentioned? *Ans.* 5,107,392 farthings.

No. 372. THE FATAL EFFECTS OF PROFLIGACY.—It has been observed in all ages, says Dr. Johnson, that the advantages of nature or of fortune have contributed very little to the promotion of happiness; and that those whom the splendour of their rank, or the extent of their capacity, have placed upon the summits of human life, have not often given any just occasion to envy in those who look up to them from a lower station. A remark eminently illustrated in the subsequent relation.

George Villiers, Duke of Buckingham, son of the Duke of Buckingham who was assassinated by Felton, was a distinguished statesman, poet, and dramatic writer. He is, however, yet more famous for his vices and misfortunes. His morals being very licentious, though he sometimes performed generous actions, he lived vitiously and extravagantly, squandered away almost the whole of his estate, and died in obscurity. This happened at an inn at Kirby-Moor-side, in Yorkshire, in the year 1687; an event affectingly described, though with some exaggeration, by Pope, in the subjoined lines:

In the worst inn's worst room, with mat half hung,
The floors of plaster, and the walls of dung,
On once a flock-bed, but repaired with straw,
With tape-ty'd curtains never meant to draw,

* See Chron. and Biog. Exer. 4th edit.

† See Chron. and Biog. Exer. 4th edit. August 23, and November 19, 1628.

The George and Garter dangling from that bed,
 Where tawdry yellow shrove with dirty red,
 Great VILLIERS lies.—Alas! how chang'd from him
 That life of pleasure, and that soul of whim!
 There, victor of his health, of fortune, friends,
 And fame; this Lord of useless thousands ends*.

This nobleman's possessions yielded him annually 48,000,000 farthings; what was his yearly income in pounds sterling? *Ans.* £50,000.

No. 373. IMPERIAL GLUTTON. Gluttony, says Holiday, is a vice in a great fortune; a curse in a small one.

Well observe

The rule of not too much, by temperance taught,
 In what thou eat'st and drink'st; seeking from thence
 Due nourishment, no gluttonous delight.

MILTON.

Vitellius, a Roman emperor, being raised to the throne by his vices, gave himself up to all kinds of luxury and profuseness; but gluttony was his favourite vice; so that he brought himself to a habit of vomiting in order to be able to renew his meals at pleasure. His food was always of the most rare and exquisite nature. The desarts of Libya†, the shores of Spain, and the waters of the Carpathian sea‡, were diligently searched to supply the table of this gormandizing emperor; insomuch that, as Josephus asserts, if he had reigned long, the whole empire would not have been sufficient to have maintained his gluttony. He ate four times a day; and Suetonius says, that every meal cost 10,000 crowns: and so extravagant was this imperial monster in every thing, that seven millions were spent in maintaining him only the space of four months. The people, at length, wearied with his vices and enormities, tore the brutal tyrant from an obscure retreat,

* See Chron. and Biog. Exer. 4th edit.

† See Exer. on the Globes, 4th edit.

‡ Part of the Mediterranean between Rhodes and Crete.

where he had concealed himself from their just resentment, dragged him naked through the streets, put him to death, and threw his mutilated body, with all possible ignominy, into the river Tyber*. Such, says the historian, was the merited end of this monster, after a short reign of 8 months and 5 days; so that Plutarch compares him, and his two predecessors†, to the kings in tragedies, who just appear upon the stage, and then are destroyed.

How many crowns, half crowns, sixpences, pence, and farthings, are in the enormous sum expended for *Vitellius's four months support*? *Ans.* 28,000,000 crowns; 56,000,000 half crowns; 280,000,000 sixpences; 1,680,000,000 pence; and 6,720,000,000 farthings.

No. 374. ROYAL-EXCHANGE.—This magnificent structure, the model of which was taken from the Exchange at Antwerp, was first erected in 1567, for the reception of merchants, at the sole charge of Sir Thomas Gresham, an eminent merchant and a native of London. This illustrious and benevolent character, in consequence of his transacting the mercantile business of Queen Elizabeth, is supposed to have obtained the appellation of the “Royal Merchant.” He was a great encourager of learning, and the liberal arts‡, and eminent for the number and extent

* See Exer. on the Globes; art. Lupus.

† Otho and Galba.

‡ Sir Thomas Gresham, who died in 1579, was a very splendid benefactor to the city of London. Besides the Royal-Exchange, he left this magnificent residence, near Bishopsgate-Street, as a college for the benefit of the citizens of London. He thought that as the inhabitants of that city possessed much money, it would also be advantageous that some knowledge and learning should be diffused among them. He bequeathed annuities for public lectures in divinity, law, physic, astronomy, geometry, music, and rhetoric; his house was appointed for the residence of the lecturers, and there the lectures were to be read. But GRESHAM-COLLEGE has since been turned into the present EXCISE-OFFICE in Broad-Street; a change which no friend to learning, or to liberty, can reflect on but with the utmost indignation. No man can suppose, that the intentions of Sir Thomas Gresham have been answered; and if the change of times had rendered some alteration of his regulations now proper, his noble designs for the promotion of science and learning, in the metropolis of England, ought not to have been so completely neglected as they have been by the present arrangements.

of his charitable donations. The queen visited the Exchange in January 1571, and by the sound of trumpets her herald named it the *Royal-Exchange**. This grand fabric being destroyed by the great fire in 1666, Charles II. rode in state into the city in 1667, and laid the first stone of the present building of the same name †, which was completed in about three years, at the expence of 76,190 guineas, 10 shillings; how many pounds sterling did it cost? *Ans.* £80,000.

No. 375. AN ENGLISH PATRIOT.—A patriot is one whose ruling passion is the love of his country.

ANDREW MARVELL was an eminent example of genuine English patriotism. Being chosen to represent his native town, Kingston upon Hull ‡, in parliament, a little before, and again after, the Restoration, he nobly supported the religious and civil liberties of his country, by his writings and his parliamentary interest, against the arbitrary encroachments of the court on both. The tendency of the ruling powers to Popery, appearing to be countenanced and encouraged by time-serving bishops, and other dignitaries of the church of England, these he most deservedly lashed in satirical writings; and at the same time, to check the progress of the measures taken by government to introduce it again, he published an account of the growth of Popery and arbitrary power in England, from 1675 to 1677. This famous tract gave great offence to the ministry; but it opened the eyes of the people, and had a sensible effect in parliament. Prince Rupert took great delight in Marvell's conversation; and much pains were taken to bring him to take the side of administration, but in vain; his patriotism being proof against all the ensnaring offers of court honours, and court emoluments.

Nought could his firmness shake, nothing seduce
His zeal, still active for the common weal
Nor stormy tyrants, nor corruption's tools,

* Hume, vol. v. p. 483. Rapin, vol. vii. p. 374.

† Rapin, vol. xi. p. 314.

‡ See Chron. and Biog. Exer. See also the art. Marvell.

Foul ministers, dark-working by the force
 Of secret-sapping gold. All their vile arts,
 Their shameful honours, their perfidious gifts,
 He greatly scorned.

THOMSON.

The following is one of the various instances adduced in proof of this illustrious patriot's incorruptible integrity. When the lord-treasurer Danby was sent by Charles II. to offer him a thousand pounds in money, as an unconditional present from the king, and only a tribute to his great merit, he spurned the insidious offer: though, as soon as that nobleman had withdrawn, Marvell was obliged, from the narrowness of his circumstances, to borrow a guinea from a friend.

The honest man,
 Simple of heart, prefers inglorious want
 To ill got wealth.

PHILIPS.

Subtract the loan from the intended court bribe, and bring the remainder into farthings. *Ans.* 958,992 farthings.

No. 376. AN AMERICAN PATRIOT.—Times of civil war and commotion, as they sometimes give rise to the most shocking vices, produce likewise, upon particular occasions, the most exalted virtues, the purest patriotism, the greatest elevation of mind, and the most steady and incorruptible principles; of which the following noble and high-spirited answer is a memorable instance. When the British commissioners were in America, endeavouring to promote a re-union of the two countries, Mrs. Ferguson, the intimate friend of Governor Johnstone, one of the commissioners, informed General REED, at Philadelphia, that he might have *ten thousand pounds*, and any office in the colonies in the king's gift, if he would engage his interest to forward the business of their mission. *I am not worth purchasing*, replied the patriot; *but, such as I am, the King of Great-Britain is not rich enough to do it*.*

* Dr. Gordon's Hist. Amer. War, vol. iii. p. 172; or, Doddsley's Annual Register for 1799, p. 221

It was the shameful boast of an eminent statesman*, that *every man had his price*; but here is a man who, like our immortal MARVELL, plainly appears to have been above all price;

In whom corruption could not lodge one charm.

THOMSON.

Gold, silver, ivory, vases, sculptur'd high,
Paint, marble, gems, and robes of Tyrian dye,
There are who have not—and thank heaven there are
Who, if they have not, think not worth their care.

POPE.

How many farthings and guineas are in the sum above mentioned. *Ans.* 9,600,000 farthings; 9,523 guineas, 17 shillings.

No. 377. TWO VILLAGE-HAMPDENS.—I will deserve, says that learned and ingenious writer, Mr. Gilbert Wakefield, the applauses of every true Briton, and honest patriot, by recording the memorable exertions of two individuals in private life, which will sanctify their remembrance to the worshippers of LIBERTY in ages yet unborn:

Two Village-Hampdens, that with dauntless breast
The little tyrants of their fields withstood.

* Sir Robert Walpole, afterwards Earl of Orford, in Suffolk; who, moreover, it is asserted upon unquestionable authority, uttered the following man-degrading sentiment, which, for the honour of our species, we hope applies chiefly to court-dependents. "So great is the depravity of the human heart, that ministers, who only could know it, were, in charity to mankind, bound to keep it a secret." Agreeable to this is, however, in some measure, the language of Dr. Young:

Heav'n's Sovereign saves all beings, but himself,
That hideous sight a naked human heart.

Sir Robert Walpole was born at Houghton, in Norfolk, in 1674. He was prime minister to George I. and II. and enjoyed plenitude of power from 1725 to 1742, when he was compelled to resign his places. He died in 1745.

The

The first of these incomparable heroes is Mr. TIMOTHY BENNETT, of Hampton-Wick, near Richmond, Surrey; and the following is a short history of his achievement.

The foot passage from this village, through *Bushy-Park* (a royal demefne), to *Kingston-upon-Thames*, had been for many years shut up from the public. This honest Englishman, "*unwilling*" (it was his favourite expression) "*to leave the world worse than he found it,*" consulted a lawyer upon the practicability of recovering this road, and the probable expence of a legal process. "I have *seven hundred pounds,*" said this admirable person, "which I should be willing to bestow upon this attempt. It is all I have, and has been saved through a long course of honest industry." The lawyer informed him, that no such sum would be necessary to produce this effect: and Timothy determined accordingly to proceed with vigour in the prosecution of this public claim. In the mean time, Lord Halifax, ranger of *Bushy-Park*, was made acquainted with his intentions, and sent for him. I am, adds Mr. Wakefield, possessed of an excellent engraving, which represents this worthy, of an inimitably firm and complacent aspect, sitting down in the attitude of his conversation with his lordship*. "And who are you, that have the assurance to meddle in this affair?" "My name, my Lord, is *Timothy Bennett, Shoe-Maker, of Hampton-Wick.* I remember, an't please your lordship, to have seen, when I was a young man sitting at my work, the people cheerfully pass by my shop to *Kingston-Market*; but now, my lord, they are forced to go round about through a hot sandy road, ready to faint beneath their burdens; and *I am unwilling to leave the world worse than I found it.* This, my lord, I humbly represent, is the reason of my conduct." "Begone, you are an impertinent fellow," replied the Lord. However, upon mature reflection, his lordship, convinced of the equity of the claim, notwithstanding the advice of his friends to persist, beginning to compute the ignominy of defeat—**LORD HALIFAX, the NOBLEMAN, nonsuited by TIMOTHY BENNETT, the SHOE-MAKER—and the improbability of**

* The inscription beneath the engraving is, *Timothy Bennett, of Hampton-Wick, Middlesex, Shoe-Maker, aged 75.*

success,

success—defisted from his opposition, and opened the road ; which is enjoyed without molestation to this day.

The other patriotic hero was Mr. LEWIS, of Richmond, who nobly resisted some meditated *royal* encroachments ; for the particulars of which we must, however, refer to Mr. Wakefield's Memoirs, p. 250, first edition.

“ Such disinterested instances of public virtue,” sub-joins Mr. Wakefield, “ redeem the degenerate age, in which we live, from an *universal* imputation of servility and corruption.”

How many guineas, pence, half-pence, and farthings, are in the venerable Mr. Timothy Bennett's fortune ?
Ans. 666 guineas, 14 shillings ; 168,000 pence ; 336,000 half-pence ; 672,000 farthings.

No. 378. GRATEFUL SERVANT.—

Sweet is the breath of vernal show'r ;
 The bee's collected treasures sweet ;
 Sweet music's melting fall ; but sweeter yet
 The still small voice of gratitude.

GRAY.

There is, as Mrs. Griffiths observes, a charming glow of affection and gratitude, with a pleasing description of the virtue and sobriety of the ancient peasantry of England, and the difference of manners and morals between those times and the more modern ones, in the following affecting speech of a peasant to his lord :

I have five hundred crowns,
 The thrifty hire I sav'd under your father,
 Which I did store to be my foster-nurse,
 When service should in my old limbs lie lame,
 And unregarded age in corners thrown ;
 Take that ; and he that doth the ravens feed,
 Yea, providently caters for the sparrow,
 Be comfort to my age ! Here is the gold ;
 All this I give you : let me be your servant,
 Though I look old, yet I am strong and lusty ;
Let me go with you ;
 I'll do the service of a younger man
 In all your business and necessities.

SHAKSPEARE.

Valuing

Valuing each crown at 4s. 6d. $\frac{1}{4}$. how many pounds sterling do they contain? *Ans.* £114 1s. 3d.

No. 379. DEATH OF CARDINAL BEAUFORT.—

Horror gnaws the guilty soul
Of dying sinners; while the good man sleeps
Peaceful and calm*, and with a smile expires.

GLYNN.

No document, no example, as Mrs. Griffiths well remarks, is so effectual a warning to the mind, as the view of a wicked person in his last moments. This speaks to the heart, as well as to the understanding. We then see things and actions in their true light, which the false glare of gain or pleasure, or the involved and complicated nature of sin, are but too apt to hide from our notice.

* Sweet are the slumbers of the virtuous man.

ADDISON.

On the contrary, an evil conscience is a *fiery* that gives most shocking *curtain-lectures*. The great delineator of human nature represents the wicked as incapable of tasting "the gifts of all-composing sleep."

Not poppy, nor mandragora,
Nor all the drowsy syrups of the world,
Shall ever med'cine thee to that sweet sleep.

SHAKESPEARE.

An ancient satirist represents the sleep of the delinquent as accompanied by a sense of guilt.

Next mark, my friend, his slumbers!—If repose
Lifts to his suit, and bids his eye-lids close,
Mark what convulsions heave his martyr'd breast,
And frequent starts, and heart-drawn sighs attest,
Though nature grants him sleep, that guilt denies him rest. }
Then starts he from his couch, while dews of horror pour
Down his dank forehead—wrings his hands, and prays to sleep
no more.

LEWIS'S IMITATION OF JUVENAL.

A death-

A death-bed's a detector of the heart :
 Here tir'd Diffimulation drops her mask ;
 Through life's grimace, that mistress of the scene !
 Here real and apparent are the same.

YOUNG.

He who has betrayed a friend, wronged the orphan, or oppressed the poor, must surely never have seen a penitent on his death-bed ! What desperate madness, then, must it be, ever to do a deed, for any advantage in life, which after so short—*so very short*—a space of time, we would give a galaxy of worlds to have undone again.

Nothing can more admirably picture to us the horrors of a guilty conscience, than the frantic death-bed raving of Cardinal Beaufort, who, a few weeks before, had basely murdered, at Bury in Suffolk, the mild and virtuous Humphrey, Duke of Gloucester, regent of England in the minority of Henry VI.

Bring me unto my trial when you will.
 Dy'd he not in his bed ? Where should he die ?
 Can I make men live, whether they will or no ?
 O ! torture me no more, I will confess.—
 Alive again ? then shew me where he is ;
 I'll give a thousand pound to look upon him.—
 He hath no eyes, the dust hath blinded them.—
 Comb down his hair ; look ! look ! it stands upright,
 Like lime-twigs set to catch my winged soul !—
 Give me some drink ; and bid the apothecary
 Bring me the strong poison that I bought of him.

SHAKESPEARE.

How different is the end of the good man ! His evening of life is calm ; his sun goes down with sweet serenity ; and he retires from this transitory scene with cheerfulness. Conscious integrity, and well-grounded hopes of the divine favour, assuage the agonies, and sweeten the bitterness of death. " I have sent for you," said the pious Addison, on his death-bed*, to a dissolute young noble-

* This excellent man died at Holland-House, Kensington. See Chron. and Biog. Exer.

man whom he wished to reclaim, "that you may see how a *Christian* can die."

He taught us how to live; and (oh! too high
The price for knowledge) taught us how to die.

TICKELL.

Heav'n waits not the last moment; owns her friends
On this side death, and points them out to men;
A lecture silent, but of sovereign pow'r!
To vice confusion, and to virtue peace.

YOUNG.

The agonizing death of Cardinal Beaufort happened in 1447. Subtract a farthing from the sum he mentioned, and bring the remainder into guineas? *Ans*, 952 guineas 7s. 11d. $\frac{1}{4}$.

No. 380. EQUALITY.—

The self-same sun, that shines upon a court,
Hides not his visage from a cottage, but
Looks on all alike.

SHAKSPEARE.

On down reclin'd, or wrapt in purple robe,
The thirsty fever burns with heat as fierce
As when its victim lingers in a cot.

LUCRETIVS.

With equal pace, impartial fate
Knocks at the palace, as the cottage gate,

FRANCIS'S HORACE.

The happiness of the human race, as Wakefield justly observes, can only be raised on the foundation of that EQUALITY ascertained by the laws of our *creation*, and ratified by the *gospel* in every page, which acknowledges no distinction of *bond* or *free*. Interest may oppose, and sophistry may cavil; but EQUALITY, in its rational acceptation, as relating to civil privileges, and impartial laws, is interwoven with Christianity itself: they must live or perish together;

God

GOD gave us only over beast, fish, fowl,
 Dominion absolute; that right we hold
 By his donation; but man over men
 He made not lord; such title to himself
 Reserving, human left from human free.

MILTON.

By the term EQUALITY we are not, however, to understand that absurd and impossible equality, by which the master and servant, the magistrate and the artificer, the plaintiff and the judge, are confounded together; but that *equality*, by which the subject depends on LAWS; and which is the defence of the weak against the ambition of the powerful*. Nothing then can be more innocent than the use of the word *equality*, when taken in the sense meant by its rational advocates. For what do they say? asks that distinguished orator, Mr. Fox, that "all men are equal in respect of their rights." Equal rights to unequal things; one man to a shilling, another to a thousand pounds; one man to a cottage, another to a palace; but the right of both is the same; an equal right of enjoying, an equal right of inheriting or acquiring, and of possessing inheritance and acquisition; and these, continues that illustrious senator, are the principles on which all just and equitable governments are founded.

Add the two sums mentioned by Mr. Fox together, and bring the total into shillings, three-pences, pence, and

* The late Lord Kenyon's admirable observations on this subject should be written in letters of gold in the most conspicuous part of every court of justice in the kingdom. "The law of England," said his Lordship†, "will lose the best part of its object if it does not attend to the interests of the lower classes, as they have no protection but the law of the land; and undoubtedly all judges of every description feel, that the poor and undefended have a right to call on them for protection; and when they do, they will not call in vain." With these humane sentiments his lordship's own conduct is said to have been in perfect unison, as he always paid the most benevolent attention to the numerous distressed and injured persons who applied to him for legal advice. Lord Kenyon died at Bath, in 1802. See Chron. and Biog. Exer. 4th edit.

† Court of King's Bench, Feb. 18, 1799.

guineas. *Ans.* 20,001 shillings; 80,004 threepences; 240,012 pence; 952 guineas, 9 shillings.

No. 381. FIRE OF LONDON.—It is well remarked by Dr. Johnson, that the conflagration of a city, with all its tumult of concomitant distress, is one of the most dreadful spectacles which this world can offer to human eyes. The fire of London, or, as it is sometimes denominated, “the great fire,” broke out at a baker’s house near London-Bridge, September 2, 1666, at night. The flame spread itself on all sides with such rapidity, that no efforts could extinguish it, till it had destroyed a considerable part of the city; no less than 400 streets and 13,000 houses being reduced to ashes; and the wretched inhabitants, reduced to be spectators of their own ruin, were pursued from street to street by the flames, which unexpectedly gathered round them. Three days and nights did the fire advance; and it was only by the blowing up of houses, that it was at last extinguished*. Men, says Rapin, failed not to give scope to their imagination, and to form conjectures upon the causes and authors of this dreadful fire. The pious and religious ascribed it to the just vengeance of heaven, on a city, where *vice* and *immorality* reigned *openly* and *shamefully*, and which had not been sufficiently humbled by the raging pestilence of the preceding year. Some imputed this misfortune to the malice of the republicans; others to the Papists. It was, however, generally imputed to these last; and the rather, because several other things afterwards helped to confirm this suspicion†. It is nevertheless observed by Hume, that, after the strictest inquiry by a committee of parliament, no proof, or even presumption, ever appeared to authorize such a calumny; yet, in order to give countenance to the popular prejudice, the inscription, engraven

* Hume, vol. vii. p. 415†.

† Rapin, vol. xi. p. 286.

‡ About this period an office was set up for insuring houses from fire, which was principally contrived by Dr. Barbon, one of the first and most considerable builders of the city.

Rapin, vol. xi. p. 289.

by authority on the MONUMENT, ascribed this calamity to that sect.

There London's column, pointing at the skies,
Like a tall bully, lifts the head, and lies.

POPE

The magnificent column just mentioned was built by Sir Christopher Wren. It is 15 feet in diameter, and 202 in height, and cost the city 12,480,000 farthings. How many pence, half-crowns, crowns, and pounds, did it cost? *Ans.* 3,120,000 pence; 104,000 half-crowns; 52,000 crowns; 13,000 pounds sterling.

No. 382. THEOLOGICAL TERGIVERSATION.—The excellent Mr. Wilde, who continued through life on a small cure of *forty pounds* a year, because he would not repeat his subscription to the articles of our church, asserted, that he was verily persuaded if the BIBLE were burnt to-morrow, and the KORAN* introduced and established in its stead, we should still, provided the emoluments were the same, have plenty of *bishops, priests, and deacons*. That many of the established clergy are illustrious exceptions to this harsh censure, cannot be doubted. It must, nevertheless, be admitted, that the sacerdotal order has been occasionally disgraced by wolves in sheep's clothing. Of this number was that celebrated theological Proteus the VICAR OF BRAY†. This ignominious son of the

* The Koran is the Bible of the Mahometans; it is replete with absurd representations, and is supposed to be written by a Jew. See the Rev. JOHN EVANS'S "Sketch of the Denominations into which the Christian World is divided:" an admirable and most useful work, which we earnestly recommend to the attentive perusal of our juvenile readers, as containing a concise yet perspicuous account of the chief sects of Christianity, together with some very judicious and sensible reflections on the necessity of mutual charity and forbearance; qualities of the utmost importance to young persons, who, in their future intercourse with the world, are likely to mix every day with Christians of various denominations.

† Mr. Wakefield's Memoirs, p. 60, first edition.

‡ Bray is a small village in Berkshire, three miles from Windsor, and one from Maidenhead. In its neighbourhood Cæsar is supposed

the church, whose title may have probably outlived the recollection of his *pious* manœuvres, was a Papist under the reign of Henry VIII. and a Protestant under Edward VI. he was a Papist again under the sanguinary Mary, and at length became a Protestant in the reign of Elizabeth. When this scandal to the gown was reproached for his versatility of religious creeds, he made answer,—“I cannot help that: but, if I change my religion, I am sure I keep true to my principle; which is, *to live and die Vicar of Bray.*” Conduct like that of our conscience-prostituting vicar, doubtless suggested to that “true child of wit and humour,” BUTLER, the following satirical lines

What's orthodox and true believing
Against a conscience? *A good living.*
What makes ALL DOCTRINES plain and clear?
About two hundred pounds a year.
And that which was prov'd true before,
Prove false again? *Two hundred more.*

Suppose the sum mentioned in the preceding lines were added together, and then divided into guineas, crowns, half-crowns, shillings, and pence, and of each an equal number, how many would there be of each sort? *Ans.*
270 $\frac{1}{3}$ $\frac{2}{3}$.

No. 383. **ECONOMY THE BEST SOURCE OF GENEROSITY.**—Make an impartial estimate of your revenue; and whatever it is, says a celebrated writer, live upon less. Resolve never to be poor. Frugality is not only the basis of quiet, but of beneficence. No man can help others that wants help himself; one must have enough before we have to spare. Frugality, as Dr. Johnson

posed to have crossed the Thames with his army. But it owes more of its celebrity to the “drum ecclesiastic” than the drum military; no village in England having been more frequently mentioned, or oftener celebrated in song, on account of its turn-coat vicar, whose name was SYMON SYMONS. He died in the forty-first year of Elizabeth. The story was first published by Fuller, in his Church History. This author died in the year 1661. See the Beauties of England, vol. i. p. 195.

justly

justly remarks, may be termed the daughter of prudence, the sister of temperance, and the parent of LIBERTY. He that is extravagant will quickly become poor, and poverty will enforce dependence*, and invite corruption; it will too frequently produce a passive compliance with the wickedness of others; and there are many who learn by degrees to practise those crimes which they cease to censure. Without frugality none can be rich, and with it very few would be poor. Economy and exertion constitute the *barrel and the cuse*, out of which most families, of every rank and profession, might freely take for themselves and their friends, without danger of exhausting them. The following anecdote has been long in traditional circulation.

An extremely rich, but somewhat penurious character, who was surprised in the act of reproaching his maid-servant with the utmost vehemence, for having thrown a match into the fire, when she had used but one of its ends, gave, in a few minutes after, FIFTY POUNDS towards the support of a public charity in London; observing, as a reason for having just reprehended his domestic for her extravagance, that *economy was the best source of generosity*.

Suppose the collectors to the above-mentioned charity to have received, in the course of a week's collection, in addition to the donation which gave rise to the present question; 250 guineas, 300 half-guineas, 100 crowns, 45 half-crowns, 173 shillings, and 25 sixpences; how many farthings are contained in the whole of the several sums? *Ans.* 489,504 farthings.

No. 384. ST. PAUL'S CATHEDRAL.—This is the most capacious, magnificent, and regular Protestant church in the world. The length within is 500 feet; and its height, from the marble pavement to the cross, on the top of the cupola, is 340. It is built of Portland stone, in the form of a cross; and is the work of Sir Christo-

* *Serviet eternum, qui parvo nescitur uti**.—He must be a perpetual slave, who knows not how to live upon a little.

† See an admirable paper on this subject in the *Rambler*, No. 57.

* Horace.

pher Wren, and undoubtedly the only work of the same magnitude that ever was completed by one man*. It is not, however, so large as St. Peter's at Rome; nor is it, as has been erroneously supposed, built after the model of that famous church; but it has been thought superior to it in point of architecture. This eminent architect laid the first stone in 1675, and saw the building finished in 1711. The expence of raising this superb structure, which was defrayed by a duty on coals, is calculated at a million sterling.

Suppose the above sum divided into an equal number of guineas, half-guineas, crowns, half-crowns, shillings, sixpences, and three-pences; how many would there be of each sort? *Ans.* 490,797 $\frac{267}{488}$.

* It has been observed in a late work, that Sir CHRISTOPHER Wren "was a man of very uncommon and resplendent merit. He was one of the first and most active members of the Royal Society, and promoted the design of it by discoveries in various branches of science. He was also the author of many mechanical inventions. Mr. Hooke said of him, that, since the time of Archimedes, there scarcely ever met, in one man, such a mechanic hand, and so philosophical a mind." It has also been remarked, that Sir Christopher Wren erected a greater number of magnificent buildings than were ever produced by any other man. "Besides St. Paul's cathedral, he erected, after the fire of London, more than fifty churches in that city. Among these was St. Stephen's, Walbrook, which is esteemed his master-piece, and the inside of which is uncommonly beautiful. It has been said, that Italy itself can hardly produce a modern building that can vie with this in taste and proportion. The Monument, Greenwich and Chelsea Hospitals, the Palace of Hampton-Court, and the Theatre at Oxford, were also of his erection." Notwithstanding the extraordinary merit of Sir Christopher Wren, he was, however, turned out of his office, as surveyor-general of the works, at the age of 86, in the reign of George I. in order to make room for another man who had better court interest, but was an arrant block-head, and was afterwards dismissed for incapacity. Sir C. Wren died Feb. 25, 1723, in his 91st year.

Wren descends with sorrow to the grave.

POP.

† St. Peter's church at Rome was one hundred and thirty-five years in building; it was not finished but in the reigns of nineteen popes; and twelve successive architects were employed in it.

No.

No. 385. BRIDGE.—A bridge is an edifice either of stone or timber, consisting of one or more arches, erected over a river, canal, or the like, for the convenience of crossing or passing over from one side to the other. Trajan, a Roman emperor, built one of the most magnificent bridges in the world over the Danube; its ruins are still visible near Warhel, in Hungary. The famous bridge of Venice, called the Rialto, consists but of a single arch, and that a flat or low one, and is considered as a master-piece of art; it was erected in 1591, after a design of Michael Angelo. Bridges of boats are either made of copper or wooden boats fastened with stakes or anchors, and laid over with planks. One of the most notable exploits of Cæsar, was the expeditious making of a bridge of boats over the Rhine.

There are fine bridges of boats at Beauçaire and Rouen, which rise and fall with the water; and that at Seville is said to exceed them both. The bridge at Rouen is, however, represented by a modern writer as the wonder of the present age. There is a wooden bridge over the Drave, five miles long.

We have many bridges of considerable note in our own country; particularly at York, Rochester, Worcester, Durham, Berwick, Blenheim, Aberdeen, and Burton. This last is the longest bridge in England, being 1543 feet in length. But the most singular bridge in Europe, if not in the world, is that built over the river Tave, or Taaf, near Caerphilly in Glamorganshire. South Wales, called Pont-y-Prydd, or New Bridge. Its span exceeds that of the Rialto, which was previously the largest arch in Europe, by forty-two feet; and its architect was a self-taught mason, of the name of William Edwards, of whom a very interesting account is given in Mr. Malkin's instructive and entertaining work just published, entitled "The Scenery, &c. of South Wales." See also Chron. and Biog. Exer. 4th edit.

LONDON-BRIDGE was first built of timber before the year 994. The stone bridge was begun by King Henry II. in 1176, and finished by King John in 1209.

WESTMINSTER-BRIDGE is reckoned one of the most complete and elegant structures of the kind in the known

world. It was begun in 1738, and finished in 1750, at the expence of £218,800 defrayed by the parliament.

BLACK-FRIARS-BRIDGE is also a very fine bridge, and its architecture has been spoken of in terms of high commendation. It commands a fine view of the Thames, and discovers the majesty of St. Paul's in a very striking manner. It was begun in 1760, and completed in 10 years and three quarters, at the expence of £152,800 sterling, which was discharged by a toll upon the passengers.

How many farthings are in the amount of the sums expended in building the last-mentioned two bridges; and how many half-crowns, sixpences, pence, and farthings, are in their difference? *Ans.* 356,774,400 farthings in the whole; 527,680 half-crowns, 2,638,400 sixpences, 15,830,400 pence; and 63,321,600 farthings in the difference.

No. 386. **HORSE.**—A beautiful quadruped used in war, in the course, in hunting, draught, carriage, and to ride on, and whose utility to man vastly surpasses that of all other domestic animals.

The horse, says Buffon, in a domestic state, is a bold and fiery animal; equally intrepid as his master, he faces danger and death with ardour and magnanimity. He delights in the noise and tumult of arms, and seems to feel the glory of victory*. He exults in the chace †; his eyes sparkle with emulation in the course ‡. But though bold

- * The fiery courser, when he hears from far
The sprightly trumpets, and the shouts of war,
Pricks up his ears, and trembling with delight,
Shifts place, and paws, and hopes the promis'd fight.

DRYDEN'S VIRGIL.

Soon as he hears the martial trumpet sound,
Loud for his rider neighs, and spurns the ground.

VALERIUS FLACCUS.

- † —The hunter-horse, unquell'd by toil,
Ardently rushes to the rapid chace.

THOMSON.

- ‡ The impatient courser pants in ev'ry vein,
And, pawing, seems to beat the distant plain;
Hills, vales, and floods, appear already cross'd;
And ere he starts, a thousand steps are lost.

Pope.
and

and intrepid, he is docile and tractable; he knows how to govern and check the natural vivacity and fire of his temper. He not only yields to the hand, but seems to consult the inclination, of his rider. Constantly-obedient to the impressions he receives, his motions are entirely regulated by the will of his master.

Of all the prone creation, none display
A friendlier sense of man's superior sway.

HOMER.

It is exceedingly to be regretted, that so noble an animal as the horse should so frequently be treated with unfeeling barbarity by human creatures. See on the subject of humanity to animals, Cowper's *Task*, book vi. No. 37 of the *Adventurer*; and No. 61 of the *Guardian* *.

No. 86

* It is recorded of the late celebrated HOWARD, that his old horses remained, after they were incapable of labour, the happy pensioners on his bounty for the rest of their lives. These faithful creatures enjoyed themselves in perfect freedom from toil, and in full supply of all that old age requires; several fields having, by this generous master, been appropriated for that purpose. Each of these fields had a comfortable shed, to which the inhabitants could resort in the hard weather, and were sure of finding the rigours of the season softened by a well furnished crib of the best hay, and a manger either of bran, or corn ground, or some other nourishing food. Chelsea-Hospital is not better accommodated. *Pratt's Gleanings, vol. 3. p. 222. edit. 4.*

The late Sir Richard Hill was a second Howard; providing for his way-worn and infirm steeds a warm shed, and a rich pasture, in which he gave them the repose that age, misfortune, and honest servitude, deserve, on the purest principles of compassion. A similar plan of benevolence is adopted by the Honourable Henry Erskine, leading Advocate of the Scotch Bar, as his brother was of the English.

Pratt's Gleanings in England, vol. ii. p. 399.

It is related to the honour of Jonas Hanway, Esq. that all his superannuated horses were made pensioners for life on their master's bounty: that he had more than twenty in a field for this purpose, all of which knew, and would follow him; even the blind ones being able to distinguish and thank him. How many others MIGHT "go and do likewise!" Such as cannot do this, are yet bound to prevent their future suffering by an immediate and easy death, instead of unfeelingly consigning them, often for a trifling pittance, to the brutal hands of Russian insensibility.

K 2

Nothing

No. 86 of the last-mentioned work contains an admirable critique on the celebrated description of the horse, in the book of Job, which is thus ably paraphrased by Dr. Young.

Survey the warlike horse; didst thou invest
 With thunder, his robust distended chest;
 No sense of fear his dauntless soul allays:
 'Tis dreadful to behold his nostrils blaze;
 To paw the vale he proudly takes delight,
 And triumphs in the fulness of his might;
 High-raised he snuffs the battle from afar,
 And burns to plunge amid the raging war;
 And mocks at death, and throws his foam around,
 And in a storm of fury shakes the ground.
 How does his firm, his rising heart, advance
 Full on the brandish'd sword, and shaken lance;
 While his fix'd eye-balls meet the dazzling shield,
 Gaze, and return the lightning of the field!
 He sinks the sense of pain in generous pride,
 Nor feels the shaft that trembles in his side,
 But neighs to the shrill trumpet's dreadful blast
 Till death; and when he groans, he groans his last.

Caligula, an infamous Roman emperor, had a horse which he called INCITATUS. He clothed him in purple, and fed him with gilt oats out of an ivory manger; but this was not all; he insisted upon it, that he should be paid the same respect that was shewn to the first persons in the state; and, to insult the people still more, he made him a *consul*, or chief magistrate:

Caligula a consul made his steed;
 What tho' the beast could neither write nor read,
 Yet he could talents negative display,
 And silence opposition with a neigh.

SALMAGUNDI.

Nothing is more pleasing than to observe through Switzerland the care, and even tenderness, which is shewn to the animal creation; while in France they feel the primary curse of labour inflicted in all its severity. Sunday and Decadi, alike the loaded horse drags on his heavy burthen; alike the merciless lash for ever resounds along the streets,

Miss Williams's Switzerland, vol. ii. p. 93.

A celebrated

A celebrated writer has observed, that the people of Rome were not very much shocked by the circumstance just recited: They had been prepared for it by gradations of corruption, which insensibly led them to such a pitch of degeneracy, that they no longer resembled, in any respect, the same Romans in the free and virtuous ages of the republic. The dignity was, indeed, as properly conferred upon the beast, as the imperial diadem upon his master.

Alexander of Macedon had a favourite war-horse named **BUCEPHALUS**, because his head was like that of an ox. Many surprising particulars are related of this noble creature. When he was saddled and equipped for battle, he would suffer no one to back him but his master; and it would not have been safe for any other person to have approached him. When Alexander wanted to ride him, he would kneel down to facilitate his mounting;

Bucephalus would kneel and stoop
(Some write) to take his rider up.

HUDIBRAS.

Some historians say, that this generous animal expired in consequence of extraordinary exertions to save his master, in the battle with Porus; others affirm, that he died at the age of 30, quite worn out. Alexander bewailed his death bitterly, believing that he had lost in Bucephalus a most faithful and affectionate friend; and afterwards built a city, some say a fortress, on the very spot where he was buried, near the Hydaspes, a branch of the Ganges, and denominated it *Bucephalia*, in honour of him. The Earl of Cork had a favourite horse, whose life was protracted, by care and tenderness, to the uncommon age of 34, and to whose memory a monumental inscription was placed in the gardens at his Lordship's seat at Marlton*.

The horse which PETER the Great rode at the famous battle of Pultowa, in Russia (Lat. 50, Long. 34), 1709, is stuffed and deposited in the cabinet of natural history at Petersburg. It is an animal of a moderate size, and of the Persian breed: it is bridled, has a velvet saddle, and

* Earl of Cork and Orrery's Letters from Italy, Pref. xxxvi.

a housing embroidered with gold, the same which it wore in the engagement. The length of the stirrups, which are scarcely a foot from the ground, proves the tall stature of the Czar*. The Thessalian horses were the most famous of ancient Greece. Elis, a country of Peloponnesus, was also in great repute for its horses, whose celerity was often the subject of applause at the Olympic games. In modern times, Arabia is most distinguished for the excellence of its horses, and the address of the inhabitants in riding them.

Travellers represent the Arabian horses as having few faults, and no vices. A child, says the Count de Ferrieres Sauvebœuf, will mount them; and if by any accident he should fall, the animal will stop to take him on his back again. Their mares, with which they never part but with pain, and from the most pressing necessity, are not to be purchased but at an immense price. Some of these creatures will fetch 2000 guineas; but the price of the most beautiful Arabian horse does not exceed 3 or 400*l*. De la Roque, Maillet, and other writers, confirm the testimony here given of the Arabians preferring the mares, on account of their greater silence, gentleness, and ability to bear fatigue, hunger, and thirst. An emir of Mount Carmel had a mare which carried him three days and nights together without eating or drinking.

BUCEPHALUS was brought from Thessaly, and purchased for 13 talents, a sum which Rollin estimates at £1,900 sterling.

ECLIPSE, an English race-horse, was sold a few years ago for 1,500 guineas. How many pounds, crowns, and farthings, does the difference of the value of these two famous animals contain? *Ans.* £325; 1,300 crowns; and 312,000 farthings.

No. 387. SALE OF DUNKIRK.—Dunkirk was a maritime town of the French Netherlands, and the most Easterly harbour on the side of France which is next to Great-Britain. It is now in the department of the North, France.

* Original Anecdotes of Peter, by Stæhlin

† Trav. in Turkey, &c.

The Emperor Charles V. held Dunkirk as part of Flanders. In 1558, the French took it by storm; but the Spaniards recovered it again in about a fortnight, and put all the French to the sword. In 1646, it was again taken by the French, and retaken by the Spaniards in 1652. In the year 1658, the French, assisted by CROMWELL, attacked and took Dunkirk, which, in consequence of a treaty between the French and English, was immediately put into the hands of the latter, to whom it proved of very great importance; for, during the war in which it was taken, the Dunkirkers had made prizes of no less than 250 of their ships, many of which were of great value. The English, however, only kept it four years; for in 1662, Charles II. to supply his extravagance, sold this valuable acquisition to Louis XIV. for the paltry sum of £500,000, or, according to Hume, only £400,000, sterling, vol. vii. p. 386.

A pensioned king*,
Against his country brib'd by Gallic gold,
The port pernicious fold, the Scylla † face,
And fell Charybdis, of the British seas.

THOMSON.

The king promised that he would lay up all the money in the Tower, and that it should not be touched but upon extraordinary occasions. It is, however, asserted by Burnet, that the immoral monarch squandered it away upon his mistresses' creatures.

How

* Charles II. was the base and ignoble pensioner of France, receiving from that kingdom an annual pension of £100,000 sterling. His design was thereby to render himself absolute. See *Rapin*, vol. xi. p. 326, &c. also p. 335. and 416. Yet to this profligate monarch a new and expensive statue was lately erected in the Royal-Exchange. If a new statue was necessary in the Royal-Exchange, it surely should have been a new statue of Sir Thomas Gresham, its original and worthy founder. See question 374.

† Scylla and Charybdis were a famous rocky promontory and whirlpool in the strait of Messina between Sicily and Italy, very terrible to ancient navigators; since the pilot who was not so skillful as to steer right between them, was sure to perish either in the gulf

How many farthings, pence, shillings, and half-crowns, and of each an equal number, are in the sum mentioned by Hume as the price of Dunkirk*? *Ans.* 2,219,633 $\frac{1}{3}$.

No. 388. FABLE or APOLOGUE.—A fable, or apologue, seems to be, says Dr. Johnson, in its genuine state, a narrative in which beings irrational, and sometimes inanimate, are, for the purpose of moral instruction, feigned to act and speak with human interests and passions.

Fables, observes Mr. Addison, were the first pieces of wit that made their appearance in the world, and have been still highly valued, not only in times of the greatest simplicity, but among the most polite ages of mankind. JOTHAM'S fable of the trees is the oldest extant, and as beautiful as any that have been made since that time †. NATHAN'S fable of the poor man and his lamb is likewise more ancient than any that is extant, except the above-mentioned, and had so good an effect, as to convey instruction to the ear of a king without offending it, and to bring David to a just sense of his guilt and his duty ‡.

of the latter, or against the rocks of the former; complete destruction inevitably following the loss of the middle passage.

Fierce to the right tremendous Scylla roars,
Charybdis on the left the flood devours.

PITT'S VIRGIL, Book III.

Homer also, in the 12th book of the *Odyssæy*, has given a very glowing description of the dangers attending the passage of this strait. Charybdis is said to have been entirely removed by the dreadful earthquake which desolated Messina in 1783.

* Dunkirk was besieged by the Duke of York in 1793. See Chron. and Biog. Exer.

† This admirable fable was delivered upon the summit of Mount Gerizim, to the inhabitants of Shechem; and Jotham's prediction against this place and its king Abimelech was soon afterward accomplished. See Judges, chap. ix. See Shechem in the Scrip. Maps.

‡ See 2 Sam. chap. xii. The scene of this parable was Jerusalem. The prophet Nathan appears to have had a great share in the confidence of King David. His country is unknown, as are also the time and manner of his death.

We

We find *Æsop** in a very early period of the Grecian history: and if we look into the very beginning of the commonwealth of Rome, we see a mutiny among the common people appeas'd by a fable of the belly and the limbs. As fables took their birth in the very infancy of learning, they never flourish'd more than when learning was at its greatest height. To justify this assertion; continues Mr. Addison, I shall put my reader in mind of Horace, the greatest wit and critic in the Augustan age; and Boileau, the most correct poet among the moderns: not to mention La Fontaine, who by this way of writing is come more into vogue than any other author of our times †. Of all the fables in the English language, those of GAY and MOORE seem to have received the greatest share of public approbation.

Literary men, at different periods, have found their labours recompens'd in a very different manner. The "Paradise Lost" of our immortal Milton was sold for the trifling sum of £15; but Shakspeare met with more generous treatment from the Earl of Southampton, who is said at one time to have made him a present of a thousand pounds ‡. The last work of our illustrious poet DRYDEN was his fables; published, as it appears, in consequence of a contract with Tonson, the bookseller, by which he oblig'd himself, in consideration of £300, to finish for the press 10,000 verses §.

Add the several sums received by Dryden, Milton, and Shakspeare together, and divide the total into portions containing 15*s.* 6*d.* $\frac{1}{2}$. each. *Ans.* 1689 portions $\frac{7}{47}$; or 14*s.* 11*d.* $\frac{1}{4}$ remaining.

* *Æsop* was a Phrygian philosopher, who, though originally a slave, procur'd his liberty by the fallies of his wit. He chiefly resided at the court of Cræsus, king of Lydia, by whom he was sent to consult the oracle at Delphi; but offending the Delphians by his satirical remarks, they put him to death by precipitating him headlong from a rock. This happened 561 years B. C. See *Exer. on the Globes*, art. Oracle.

† *Spectator*, vol. iii. No. 183.

‡ This nobleman is supposed, and not without reason, to have had a hand in some of Shakspeare's finest performances. See *Lady Russel's Letters*, p. 143 of the Introduction, edit. 6th, 1801.

§ *Dr. Johnson's Life of Dryden*.

No. 309. JUDGE JEFFERIES.—As the enormities committed by characters eminently wicked, are allowed, by moral writers, to increase our veneration for goodness, it may, perhaps, subserve the cause of virtue and humanity to lay before our juvenile readers a few of the many cruelties exercised by that flagitious and unprincipled judge, Sir George Jefferies. This profligate magistrate was one of the greatest advisers and promoters of the oppressive and arbitrary measures which took place during the tyrannical reign of James II. ; and his sanguinary proceedings, as a judge, will render his name infamous to the latest posterity. Whenever a prisoner was of a different party, or he could please the court by condemning him, instead of appearing, according to the duty of his office, as his counsel, he would scarcely allow him to speak for himself; but would load him with the grossest and most vulgar abuse, browbeat, insult, and turn to ridicule, the witnesses that spoke in his behalf; and even threaten the jury with fines and imprisonment, if they made the least hesitation about bringing in the prisoner guilty. By his direction, a partial jury was prevailed on to give a verdict against the illustrious ALGERNON SYDNEY; though the charges against that renowned patriot were not supported either by law or justice*. Having long wantoned in cruelty and injustice in the capital, he set out with a savage joy, as to a full harvest of destruction, to try the prisoners concerned in the unfortunate Duke of Monmouth's rebellion †. Dorchester, Exeter, Taunton, and Wells, were the principal scenes of his brutal ferocities. The juriss were so struck with his menaces, that they gave their verdict with precipitation; and many innocent persons were involved with the guilty. The whole country

* Hume, vol. viii. p. 198. See also the trial of Algernon Sydney.

So violent and rancorous, however, were party prejudices, at the period now alluded to, that some time-serving juries brought in the most shameful verdicts. See the case of the Rev. Mr. Rosewell, a most worthy and upright dissenting minister, against whom a verdict was given, which appeared so palpably unjust, that it was not carried into execution even by "Murderous rage itself, in Jefferies' form." See the particulars in Hume, vol. viii. p. 201.

† See Chron. and Biog. Exer. 4th edit.

was strewed with the heads and limbs of those who were executed as traitors. Almost every village beheld the dead carcase of a wretched inhabitant. Even the innocent could not escape the hands, no less rapacious than cruel, of this execrable chief justice. Mr. PRIDEAUX, a gentleman of Devonshire, being thrown into prison, and dreading the severe and arbitrary spirit which at that time met with no control, was obliged to buy his liberty of Jeffries at the price of fifteen thousand pounds; though he could never so much as learn the crime of which he was accused.

Jeffries, on his return to town, was immediately, for those eminent services, created a *peer*; and was soon after invested with the dignity of chancellor, by James II. an indubitable proof that his sanguinary measures, as well as those of Colonel KIRK, his infamous coadjutor in the cause of tyranny, met with the entire approbation of that bigoted despot*. Happily, however, for the human race, the crimes of tyrants, by exciting an abhorrence in mankind, serve to promote the cause of freedom. The tyrannical conduct of James and his execrable minions occasioned the REVOLUTION†. See Question 108, p. 66.

How many farthings and guineas are in the sum extorted from Mr. Prideaux? *Ans.* 14,400,000 farthings; 4,285 $\frac{10}{100}$ guineas.

No. 390. INFANTA.—This is a Spanish word, implying a daughter of the king of Spain or Portugal. Our Charles II. married the infanta of the last mentioned kingdom; a measure to which his necessities were the sole motive. The princess had for her portion the fortress of

* See on this subject Rapin's and Hume's Histories of England.

† When James II. left the kingdom, Jeffries endeavoured to escape also; but he was discovered in Wapping, disguised as a sailor, and committed to the Tower, where he died, April 18, 1689. The character of my Lord *Hate-God*, in honest John Bunyan's *Pilgrim's Progress*, is such an exact picture of judge Jeffries, as to strike every reader acquainted with the history of those times. See Chron. and Biog. Exer. art. Bunyan,

Tangier in the north-west part of Africa, the island of Bombay in the East-Indies, and £300,000 sterling.

Deduct from the above sum as many farthings as there are moments in a minute; as many pence as there are minutes in an hour, as many shillings as there are hours in a natural day; as many half-crowns as there are days in a week; as many crowns as there are weeks in a month; and as many guineas as there are calendar months in a year; and bring the remainder into farthings? *Ans.* 287,984,652 farthings.

No. 391. BAUBEE.—This is a word used in the Northern counties, and particularly in Scotland, for a halfpenny.

Tho' in the draw'rs of my Japan Bureau,
To Lady Gripeall I the Cæsars show,
'Tis equal to her ladyship or me
A copper Otho, or a Scotch baubee.

BRAMST. MAN OF TASTE.

The Scotch halfpenny was first coined in the beginning of the reign of James the third, and, according to some writers, was called *barwbie*, because the monarch was then a *babie**; others, however, maintain the possibility of the term being a corruption of the french *bas-piece*, low money.

PAISLEY, in Renfrewshire, Scotland (a few miles from Glasgow), is truly a manufacturing town. The names that many of the streets have obtained, are descriptive of the people's employment. There are Silk-Street, Gauze-Street, Lawn-Street, Inkle-Street, and Cotton-Street; all of which are wide and regular, and contain many good houses. The manufacture carried on by the inhabitants is chiefly in silk and thread gauze; and such is the beauty of their work, that the Paisley gauzes have of late been displayed by the princesses and court

* James III. came to the crown in 1460 in the 7th year of his age. A brief account of the unfortunate race of Stuarts may be seen in the Chron. and Biog. Exet. 4th edit. art. Pretender.

ladies,

ladies, as a part of their dress on a birth-day assembly. A multitude of women, and very young girls, are also employed in the cotton works. Many of the principal manufacturers, having made considerable fortunes, have built elegant houses; and several of them pay, individually, £500 sterling a week to their work-people*. Suppose there should be as many of these opulent manufacturers in Paisley as there are calendar months in the year, how many baubees would they all pay in that space of time to their respective dependants; and how many parcels, each containing as many baubees as there are degrees in the circumference of the earth at the equator †, could be made up out of the entire number? *Ans.* 149,760,000 baubees paid yearly by the 12 manufacturers; 416,000 parcels.

TROY WEIGHT.

No. 392. In 27 ounces Troy how many grains? *Ans.* 12,960 grains.

No. 393. In 12,960 grains, how many ounces? *Ans.* 27 oz.

No. 394. In 3 lb. 10 oz. 7 dwts. 5 gr. how many grains? *Ans.* 22,253 grains.

No. 395. In 50 oz. 8 dwts. how many spoons of 2 oz. 16 dwts. each? *Ans.* 18.

No. 396. REGAL POVERTY.—The necessities of Henry V. were so great in the year 1417, that, to enable him to carry on the war with France, he pawned several valuable articles; among which were two gold chased basons. These he pledged to a minor canon of St. Paul's for 600 marks. The basons weighed 28 lb. 8 oz. how many grains did they contain? *Ans.* 165,120 grains.

* See Scotland Delimited.

† See Long Measure Table.

N. B. Hume asserts, that Henry not only pawned his jewels, but sometimes the crown itself. Vol. iii. p. 120. Henry was born at Monmouth, and died at Vincennes, near Rouen, in France, in 1422. See Chron. and Biog. Exer.

No. 397. GOLD.—

Gold's attractive metal, pledge of wealth,
Spur of activity; to good or ill
Powerful incentive.

DYER.

Gold is the most valuable of all metals, and all known parts of the earth yield it, though with great difference in point of purity and plenty. South America furnishes the most; but this precious metal is found in considerable abundance in Asia, in the East-Indies, in Hungary, and in Africa. It is usually found in mines of considerable depth with an admixture of other mineral and metallic matter, from which it is afterwards separated by a tedious process.

Whate'er is excellent in art proceeds
From labour and endurance.
Gold cannot appear until man's toil
Discloses wide the mountain's hidden ribs,
And digs the dusky ore, and breaks and grinds
Its gritty parts, and laves in limpid streams.
With oft-repeated toil, and oft in fire
The metal purifies.

DYER.

Gold is, however, sometimes met with in the sand and mud of rivers and torrents, particularly in Guinea, in Africa.

Hot Guinea, too, gives yellow dust of gold,
Which with her rivers rolls adown the sides
Of unknown hills, where fiery-winged winds,
And sandy deserts, rous'd by sudden storms,
All search forbid.

DYER,
We

We receive about 3,000 ounces of this gold-dust annually. How many pennyweights and grains do they contain? *Ans.* 60,000 dwts. 1,440,000 grs.

No. 398. SILVER.—Silver is the most precious of all metals, gold only excepted. This valuable and beautiful metal does not appear to have been in use prior to the deluge; at least MOSES says nothing of it before that time. He speaks of metals of brass and iron, Gen. iv. 22. It is nevertheless of great antiquity; for in ABRAHAM'S time it was become common, and traffic was carried on with this metal, Gen. xiii. 2. This venerable personage was very rich in silver and gold; and he purchased a sepulchre at Macpelah, south of Jerusalem, for his wife SARAH, for 400 shekels of silver, Gen. xxiii. 15. This silver, says Mr. Cruden*, was not coined, according to all appearance, but was only in bars or ingots; and in commercial transactions it was always weighed. It was, however, converted very early to the purposes of domestic utility or ornament, as may be rationally inferred from Gen. xlvi. 2. "Put my *silver* cup into the sack's mouth." This metal, as well as gold, was much employed for sacred uses.

The silver mines of Peru, in South-America, have proved the richest in the known world. The discovery of this amazing treasure happened by a fortuitous circumstance in the year 1545†. The exhalations from these mines render the working of them extremely dangerous. They stupify the miners, none of whom can bear so poisonous an air above a day together. Many millions of Indians have perished by them, and prodigious numbers continue to be destroyed yearly.

In deep Peruvian mines, where slaves
(Wretched requital!) drink with trembling hand
Pale palsy's baneful cup. With the fatigue,
The lusty sicken, and the feeble die.

DYER.

* See Chron. and Biog. Exer. 4th edit.

† See Mr. Payne's Geog. vol. ii. p. 784.

The horrid expence of human life at which the gold mines in America are wrought, is related by Captain Cook. No less than 40,000 negroes are annually imported for this purpose on the king of Portugal's account only; and in the year 1766, this number of unhappy victims fell so short, that 20,000 more were drafted from the town of Rio*.

The largest piece of silver ore, of which we have any account, was dug in the mines of Norway. It is at this time preserved in the king of Denmark's museum of curiosities at Copenhagen. is valued at 5,000 crowns, and weighs 560 pounds. In one of the most splendid and magnificent churches of Moscow is suspended, from the centre of the roof, an enormous chandelier of massy silver, weighing 2940 pounds. It was made in England †.

How many grains are contained in the piece of silver ore and the chandelier? *Ans.* 20,160,000 grains.

No. 399. **SPLENDID EMBASSY.**—The embassy of Lord Hay, a Scotchman, to the French court, in the reign of James I. A. D. 1616, was one of the most magnificent recorded in history. Among other things, at his public entry into Paris, he had his horse shod with silver shoes † slightly tacked on; and when he came opposite to houses or balconies, where eminent persons or distinguished beauties were, his horse prancing in humble reverence, flung his shoes away, which the surrounding mob scrambled for. Then one of his train took others out of a velvet bag, and tacked them on; which lasted till he came to the next troop of grandees §.

Supposing that in the above useless parade there should have been 33 shoes thrown off, each weighing 1920

* Hawkesworth's Voyage, quoted by Dr. Kippis, in his Life of Captain Cook, p. 23.

† Mr. Coxe's Travels, vol. i. p. 277.

‡ The two following instances of immoderate extravagance on this subject, are handed down to us by Roman writers. Nero, when he undertook short journeys, was drawn always by mules which had silver shoes; and those of his wife Poppæa had shoes of gold. See Beckman on Inventions, vol. ii. p. 286, &c.

§ Rapis, vol. viii. p. 129.

grains, how many pounds would the whole have weighed? *Ans.* 11 pounds.

No. 400. GIANTS.—A giant is a person of extraordinary bulk and stature. It is observable, says Dr. Johnson, that the idea of a giant is always associated with pride, brutality, and wickedness. Milton's giants had

Fierce faces threat'ning wars,
Giants of mighty bone, and bold empire.

The reality of giants, and of nations of giants, has been much controverted among the learned. Travellers and historians, at different periods, have furnished various accounts of giants, to which little credit is now given. Dr. Derham observes, that though we read of giants before the flood, Gen. vi. 4. and more plainly after it, Numb. xiii. 33. yet it is highly probable, that the size of man has always been the same from the creation; for as to the Nephilim, Gen. vi. the commentators vary about them, some taking them for monsters of impiety, atheism, rapine, and tyranny; as to those, Numb. xiii. which were evidently spoken of as men of a gigantic size, it is probable that the fears of the spies might add thereto.

Be this as it may, it is manifest, says the learned Dr. Rees, editor of the *New Cyclopædia*, that in both these places giants are mentioned as rarities and wonders of the age; not of the common stature; and such instances we have had in all ages. And as for the more credible relations of GOLIATH (whose height was six cubits and a span, 1 Sam. xvii. 4. which, according to Bishop Cumberland, is somewhat above 11 feet English); of Maximus the emperor (who was 9 feet high); these and other similar ancient examples and relations, may be matched with, nay outdone, by modern ones*.

GOLIATH's coat of mail weighed 5,000 shekels of brass, and the head of his spear 600 shekels of iron. To support such ponderous armour, and to wield such a spear, required an extraordinary degree of prowess; but not more than the poets ascribe to the heroes of antiquity

* See Hakewill's *Apol.* p. 208; or the *Ency. Brit.* art. *Giant*.

mentioned

mentioned in profane history. Hector, the famous Trojan chief,

Bore a massy spear of mighty strength,
Of full ten cubits was the lance's length.

POPE'S HOMER.

The same great poet gives the following description of the celebrated huge spear of the Grecian hero, Achilles :

And now he shakes his great paternal spear,
Pond'rous and huge ! which not a Greek could rear.
From Pelion's * cloudy top an ash entire
Old Chiron fell'd, and shap'd it for his fire ;
A spear which stern Achilles only wields,
The death of heroes, and the dread of fields.

Jewish doctors greatly differ in estimating the weight of the shekels so often mentioned in the Old Testament. One in the late French king's cabinet is said to weigh 268 grains. Bishop Cumberland, however, asserts, that he always found each of the many that he had weighed, about half an ounce, or 240 grains. According to this calculation, what was the weight of the gigantic Philistine's coat of mail, and the head of his spear, separately? *Ans.* 208 lbs. 4 oz. coat of mail ; 25 lbs. head of the spear †.

No. 401. HUMAN HAIR.—The hair was always esteemed, by the ancients, as the principal ornament of beauty. Even VENUS herself, says Apuleius, if she were destitute of hair, though surrounded by the graces and loves, would not have charms to please her own husband Vulcan. Agreeably to this idea, we find the

* See Exer. on the Globes, 4th edit. art. Pelion.

† Goliath was born at Gath, the most southern city of the Philistines, on the road from Eleutheropolis to Gaza. Some maintain, that when David had killed this renowned giant, he composed the 144th psalm. "Blessed be the Lord my strength, who teacheth my hands to war, and my fingers to fight." David was a native of Bethlehem, and died at Jerusalem, aged 71, about 1014 years B. C.

poets often representing the loss of this embellishment as fatal to personal beauty, in language of similar import with the subsequent line :

“ Fallen is thy hair, and beauty is no more.”

And we hardly ever meet with a description of a fine woman or beautiful man, in the poems of Ossian*, but their hair is mentioned as one of the greatest beauties.

BOADICEA, the heroic queen of the Iceni †, is described, by Dio, with very long hair, flowing over her shoulders, and reaching down below the middle of her back.

The ancient Britons were extremely proud of the length and beauty of their hair ; and it was esteemed a considerable honour among the ancient Gauls to have long hair. Hence Cæsar, upon subduing this people, made them cut off their hair as a token of submission.

The hair both of Jewish and Grecian women engaged a principal share of their attention ; and the Roman ladies seem to have been no less curious with respect to theirs. They generally wore it long, and dressed in a variety of ways, ornamenting it with gold, silver, pearls, &c. On the contrary, the men among the Greeks and Romans,

* Ossian was the son of Fingal, a most heroic Caledonian chief, and king of Morven ‡, whose principal place of residence was Selma, which was probably in the neighbourhood of Glenco, in Argyleshire, supposed to be the Cona of Ossian, who is, on this account, sometimes styled “ The Bard § of Cona,” and also, poetically, the Voice of Cona. Ossian flourished about the beginning of the third century ; he lived to an advanced age, and at the close of life became blind. Mr. Macpherison, a Scotch Gentleman, published, about the year 1762, what is called “ A Translation of the Poems of Ossian.” These poems are allowed to possess great beauties ; but their authenticity was doubted by Dr. Johnson and other writers ; while they were as vigorously defended by some men of genius, the principal of whom was Dr. Blair. See the Encyc. Brit. art. Ossian.

† The Iceni, in the ancient geography of England, inhabited the counties of Suffolk, Norfolk, Cambridge, and Huntingdon. Their heroic queen Boadicea, being defeated and ill-treated by the Romans, poisoned herself, A. D. 61.

‡ It is supposed that all the North-West coast of Scotland went of old under the name of Morven, which signifies a ridge of very high hills. See Ossian's Poems, vol. i. p. 241, edit. 1796.

§ See Bard, Chron. and Biog. Exer. 4th edit.

and

and among the later Jews, wore their hair short, as may be collected from books, medals, statues *, &c. This formed a chief distinction in dress between the sexes; an observation which illustrates a passage in the apostle Paul's epistle to the Corinthians, 1 Cor. xi. 14, 15.

We read in Homer of a Trojan who had his hair "in-starred with gems and gold;" and Madame Dacier informs us, that the Athenians were accustomed to put little grasshoppers of gold in their hair. Others, we are told, perfumed theirs with large quantities of fragrant oil, and powdered it with gold dust. Those to whom nature had denied the agreeable ornament now under consideration supplied the defect by art. The Greeks, and, after their example, the Romans, wore false hair; a custom which has at times greatly prevailed in other countries, not excepting our own. The Greeks, and other nations, when mourning for their deceased relations or particular friends, tore, cut off, and sometimes shaved their hair, which they laid upon the corpse, or threw into the pile, to be consumed together with the body: and this was deemed a token of violent affection. Thus Achilles and others, in Homer, offer theirs to Patroclus:

"O'er all the corse their scatter'd locks they throw:"

and the little cupids on the death of Adonis, according to Bion,

"Shear their locks, excess of grief to show."

Again: "When insatiate death had ravished the youthful and blooming Temas,"

Her lov'd companions pay the rites of woe,
All, all, alas! the living can bestow;
From their fair beads the graceful curls they shear,
Place on her tomb, and drop the tender tear.

SAPPHO.

* Nothing, as we learn from Juvenal and Horace, was deemed by the Romans more essential to the beauty of a young person, than a fine long head of hair; but they had a custom of cutting it short about the age of seventeen, and of keeping it so ever after. See Spence's *Polymetis*, abridged by Tindal, 2d edit. p. 115.

This

This custom is taken notice of in the Scriptures*. It is recorded by Herodotus, that Mardonius, the Persian general, after one of his defeats, cut off his hair, in token of his grief; and Plutarch tells us, that when Alexander's friend Hephæstion died, that "mighty robber and murderer," to express his sorrow, ordered the manes of all his horses and mules to be cut off.

Human hair makes a considerable article of commerce, and is sold from five shillings to five pound an ounce, according to its quality †. We shall conclude this article with some short strictures on the weight of the handsome ABSALOM'S hair, as recorded 2 Sam. xiv. 25, 26. This, we read, weighed no less than 200 shekels; which if computed by the Jewish shekel, as calculated by Bishop Cumberland, mentioned in the preceding question, amount to the enormous ponderosity of 8 lbs. 4 oz. Troy. But, fortunately for this *age of reason*, it has been remarked, that when the books of Samuel were revised, after the Babylonish captivity, such weights were mentioned as were then known to them; and therefore when the historian mentions this weight of Absalom's hair, he adds, by way of explanation, that it was after the *king's weight*, *i. e.* after the weight of the king of Babylon, whose shekel was only *one-third* of that of the Jews; by which supputation the quantity of hair is so reduced, as not to appear *altogether incredible*: more especially, if it be recollected how much the supplementary decorations of those days must increase its weight. After all, it may, perhaps, be more reasonable to say, with the judicious Harmer,

* See Ezek. xxvii. 31.

† On this subject, the late Horace Walpole, afterwards Earl of Orford, has preserved the following anecdote: "The Countess of Suffolk had married Mr. Howard, and they were both so poor, that they took a resolution of going to Hanover, before the death of Queen Anne, in order to pay their court to the future royal family. Such was their poverty, that having some friends to dinner, and being disappointed of a full remittance, she was forced to sell her hair to furnish the entertainment. Long wigs were then in fashion, and the Countess's hair being fine, long, and fair, produced her twenty pounds."

This entertaining author died March 2, 1797. See Chron. and Biog. Exer. 4th edit.

that the present reading may be faulty, as in other cases there have frequently been mistakes in numbers. It was, says this admirable writer *, an uncommonly fine head of hair, of very unusual weight, which is all that we know *with certainty* about it †.

Many commentators imagine that Absalom was suspended by his hair when he was killed by Joab : but others suppose that his neck was so wedged in between the boughs by the great motion of the mule, that he was not able to disengage himself ; “ for,” subjoin these last, “ he certainly wore a helmet when he went to battle,” and hence they conclude, that his hair could not be entangled in the boughs ‡.

Estimating the Babylonish shekel at 80 grains, what was the weight of Absalom's hair? *Ans.* 2 lbs. 9 oz. 6 dwts. 16 grs §.

No. 402. **INGOT.**—An ingot is a mass of gold or silver melted down, and cast into a mould, but not coined or wrought. This word is frequently used in some particular departments of commerce ; and is found in many of our best authors, as Spenser, Dryden, Prior, and Shakspeare. This last great poet compares a rich man to an ass loaded with *ingots* :

* See Chron. and Biog. Exer. 4th edit.

† Observations, vol. ii. p. 400, &c.

‡ The battle between David and his rebellious son Absalom was fought in the wood of Ephraim * ; which is undoubtedly to be understood, not of any wood lying in the tribe of Ephraim, west of Jordan, (for Absalom as well as David were passed over this river †) but of some wood, situated east of Jordan, and so named on some other account ; perhaps as lying over against the tribe of Ephraim ‡.

There was a city named Ephraim, west of Jordan, unto which our Saviour retired before his passion. See John xi. 54. See the Scripture Maps.

§ A good English head of hair weighs about five ounces. Harmer's Observations, vol. ii. p. 400.

* See 2 Sam. xviii. 6.

† See 2 Sam. xvii. 22, 24.

‡ See the map of Canaan in Wilkinson's Atlas Classica.

If thou art rich, thou'rt poor ;
 For like an ass, whose back's with *ingots* bound,
 Thou bear'st thy heavy riches but a journey,
 And death unloadeth thee.

It occurs also in some admirable lines, which, the elegant author observes, contain the moral of his poem ; a composition of great excellence. As we are anxious that the sentiments exhibited in the passage to which we allude, should "grapple the attention" of our fair readers, we shall transcribe it for that purpose.

VIRTUE'S an *ingot* of Peruvian* gold,
 SENSE the "bright ore Potosi"† mines unfold ;
 But TEMPER'S image must their use create,
 And give these precious metals sterling weight.

Mr. HAYLEY'S Triumphs of Temper.

In 31 lbs. 10 oz. 18 dwts. 20 grs. of silver, how many *ingots*, each weighing 7 lbs. 11 oz. 14 dwts. 17 grs. ?
Ans. 4 *ingots*.

No. 403. WEDGE.—Wedge, in mechanics, is the last of the five powers or simple machines. It is a very great mechanical power, since not only the "knotted oak †," but even the "ragged-sided rock" can be split by it ; which it would be impossible to effect by the lever, wheel and axle, or pulley : for the force of the blow, or stroke, shakes the cohering parts, and thereby makes them separate the more easily. It is usually driven by a mallet, or wooden hammer. *Wedge* also denotes a mass of metal.

* Peru is a large country of South America, famous for its mines of gold and silver ; and some of its medicinal drugs, which are brought into this country, are of excellent use, particularly the Jesuit's bark and Peruvian balsam.

† Potosi is a mountain of Peru, containing the finest silver mine in the world ; but its treasure is said to be at present almost exhausted, and the mountain itself is little better than a shell. The rich and populous town of Potosi, is situated at the foot of the mountain.

‡ And piercing wedges cleave the stubborn oak.

DRYDEN'S VIRGIL.

As

As sparkles from the anvil us'd to fly,
When heavy hammers on the wedge are swaid.

SPENSER.

The "accursed thing" in the midst of Israel, was the concealment of a *wedge* of gold, part of the spoils of Jericho, which the wicked ACHAN had purloined, contrary to express command; and for which theft himself and family were afterwards stoned and burnt, in the valley of Achor, in the vicinity of Jericho*, about 20 miles E. by N. from Jerusalem.

The fatal wedge of gold, which caused the extirpation of Achan's race, weighed 50 shekels. Now, supposing a shekel to weigh 9 dwts. 3 grs. English Troy weight †, how many grains did it contain? *Ans.* 10,950 grains.

AVOIRDUPOISE WEIGHT.

No. 404. In 14,769 ounces, how many hundred weight? *Ans.* 8 cwt. 0 qrs. 27 lb. 1 oz.

No. 405. In 8 cwt. 0 qrs. 27 lb. 1 oz. how many ounces? *Ans.* 14,769.

No. 406. In 27 cwt. of Malaga ‡ raisins, how many parcels of 18 lb. each? *Ans.* 168.

No. 407. In 21,444 drachms, how many pounds? *Ans.* 83 lb. 12 oz. 4 dr.

No. 408. In 83 lb. 12 oz. 4 dr. how many drachms? *Ans.* 21,444.

No. 409. BATTERING-RAM.—This irresistible machine was a military engine, employed by the ancients to

* See the 7th chapter of Joshua; also the author's Map of the Journeyings of our Saviour.

† See Scripture Lexicon, p. 335, 2d edit. The exact weight is said to be 9 dwts. 2 grs. $\frac{4}{7}$ Troy.

‡ Malaga is seated on the Mediterranean sea, at the base of a craggy mountain, in Granada, Spain. It has a good harbour, and is a place of considerable commerce in wines, fruits, anchovies, oil, &c. &c.

beat down the walls of besieged places. It was a vast piece of timber like the mast of a ship, strengthened at one end with a head of iron, something resembling that of a ram, whence it obtained its appellation. This was hung by the middle with ropes to another beam, which lay across two posts; and being thus suspended in equilibrium, it was alternately drawn back and propelled by a century of men, with such impetuosity, that no wall or tower could effectually withstand its reiterated concussions. It is mentioned by the prophet Ezekiel in two passages, chap. iv. 1, 2, and xxi. 22. and Nebuchadnezzar made use of it at the siege of Jerusalem. Plutarch tells us, that Anthony, in the Parthian war, used a ram 80 feet in length; and Vitruvius asserts, that they were sometimes 120 feet long.

The battering ram which was employed by Titus to demolish the walls of Jerusalem* weighed, according to Josephus, 100,000 lbs. how many tons, &c. do they contain? *Ans.* 44 tons, 12 cwt. 3 qrs. 12 lbs.

No. 410. Hops.—This useful article of commerce was brought into England, according to Anderson, about the year 1525, from the Netherlands †, and immediately used in brewing; but the physicians of that period representing to the parliament that hops were unwholesome, the use of them was shortly after discontinued. They have, however, been many years in general repute in the brewery, for the preservation of malt liquors; which by the superaddition of this balsamic, aperient, and diuretic bitter, become less viscid, more detergent, and more salubrious. They are also employed occasionally in medicine. There are large plantations of hops in several English counties, particularly in Worcestershire, Herefordshire, and Kent.

————— On Cantium's ‡ hills,
The flow'ry hops, whose tendrils climbing round

* See Question 87. page 43.

† They came originally from the little town of Ask, adjacent to Dendermond. Lat. 51. Long. 4. E. See Bourn's Gaz.

‡ Cantium was the ancient name of Kent. The Cantii were, according to Cæsar, the most civilized of all the Britons. That invader landed in their territory August 26, 55 years B. C. at ten in the forenoon. See Chron. and Biog. Exer.

The tall aspiring pole, bears their light heads
Aloft, in pendant clusters; which in the malt's
Fermenting thus infus'd, to mellow age
Preserve the potent draft.

KENT GUIDE.

In 44 tons, 12 cwt. 3 qrs. 12 lbs. of hops, how many pounds? *Ans.* 100,000 lbs. And how many parcels, each containing as many pounds as there are days in the year, are contained in this number of pounds, supposing 10 lbs. more to be added to them? *Ans.* 274 parcels.

No. 411. COLOSSUS.—A Colossus is a statue of enormous magnitude. In the temple of Belus, at Babylon, there was a golden statue forty feet high, which weighed 1,000 Babylonish talents, and was worth three millions and a half of our money*. There was an image erected on the plain of Dura, near Babylon, which, according to Daniel, was sixty cubits, or about ninety feet, in height. But the most celebrated Colossus of which any account is preserved, and which is therefore emphatically styled *the colossus*, and deemed one of the wonders of the world, was a statue of brass erected to the sun, at the mouth of the harbour of Rhodes, a city in an island of the same name in the Mediterranean sea. It was 105 feet high, and proportioned in all its parts; and, according to the general opinion, the ships of that period passed between its legs. CHARES, of Lindus, a city in the south-east part of Rhodes, devoted 12 years to the completion of the work, which occurred 288 years B. C. Sixty-six years subsequent to its erection, an earthquake overthrew it, and it lay neglected 894 years, that is, till the year of our Lord 672; when Moarvias, the 6th caliph, or emperor of the Saracens†, having taken Rhodes, sold the brass of this famous statue to a Jewish merchant, who loaded 900 camels with it. Allowing only 800 lbs. weight to every camel (though some will carry 12 or

* Dr. Rutherford's Anc. Hist. vol. i. p. 85.

† See Saracens, Index.

1300 lbs.) how many tons did the colossus weigh? *Ans.*
321 tons; 8 cwt. 2 qrs. 8-lbs.

No. 412. IRON.—This is a hard, fusible, malleable, and the most useful of all metals in the affairs of life. A little reflection will suffice to convince us, how awkward the operations of industry must be, and what a rude scene human life would soon exhibit, without the use of metals, and of this in particular. Without iron we could attain little perfection in tillage or agriculture; in mechanical arts or trades; in architecture or navigation. Society, says Dr. Rutherford, can never make great advances without the use of iron. It is the instrument of *universal industry**. At the time of the Trojan war, iron was held in such estimation, that in the games which Achilles gave in honour of Patroclus, he proposed a ball of that metal as a considerable prize †. It has been remarked, as an instance of Divine Goodness to human kind, that those metals which are of most frequent and necessary use to man, as iron, copper, and lead, are the most common and plentiful. With respect to iron, it is an universal metal, being found in all the mineral earths and stones that have been examined, in the ores of all other metals, and even in the ashes of all vegetables and animals. The Swedish iron has generally been preferred on many accounts, and particularly for the making of steel; but the English iron, properly manufactured, has been found not inferior.

Russia had several considerable iron manufactories in the time of Peter the Great; some of these he visited with great assiduity, and himself learnt the business of a blacksmith. He succeeded so well in that trade, that in one day he forged alone, 18 poods of iron, equal to 720 pounds weight, and put his own particular mark on each

* The use of iron tools, of the bow and arrow, of earthen vessels to boil water in, or wheels for carriages, and the arts of cultivating wheat, of coagulating milk for cheese, and of spinning vegetable fibres for clothing, have been known in all *European* countries, as long as their histories have existed.

DARWIN'S *Temple of Nature*, p. 5.

† Dr. Rutherford's *Anc. Hist.* vol. i. p. 39, 373.

bar. This was performed at the forges of one Muller at Istia, ninety wersts distance from Moscow, to which place he often resorted. One of these bars, authenticated by Peter's mark, is still to be seen at Istia in the same forge. Another, forged also with the czar's own hand, is shewn in the cabinet of the Academy of Sciences at Petersburg: but this last was forged at Olonetz, a place situated on the side of the lake Ladogo, the 12th of October, just before his death, which happened in 1725. This bar weighs 120 pounds.

Peter, on the receipt of one of his days wages from Muller, went directly to a shop, and purchased a pair of shoes, which he took great pleasure in shewing on his feet, saying to those who were present, "I have earned them well, by the sweat of my brow, with hammer and anvil."

Peter once passed a month at Istia; and when he worked at the forges, the bayards, and other noblemen of his suite, were obliged to blow the bellows, to stir the fire, to carry coals, and perform all the other offices of journeymen blacksmiths*.

Add the weight of the iron forged by Peter at Istia and Olonetz together, and bring the amount into drachms. *Ans.* 215,040 drachms.

No. 413. COPPER.—Copper is one of the six primitive metals. It is found in the bowels of the earth in several varieties, as native, &c. Copper is used in mixture with other metals. Mixed with tin, in considerable quantity, it produces BELL-METAL; with a smaller proportion BRONZE; with zinc it forms BRASS, PINCHBECK, &c. Copper, when taken into the human body, acts as a violent emetic, and has been generally accounted poisonous, though lately received with some applause into the materia medica as a tonic. Great attention to cleanliness is recommended in the use of copper utensils; and it is altogether improper to let any fluid remain in a copper vessel till it be cold; for this metal is much more calcinable in the cold than when heated. Its pernicious effects are prevented by having the vessels tinned.

* Anecdotes of Peter. See also ORIGINAL Anec. of the same Monarch, p. 22, 23, 24, 371, 373.

There are copper mines in many parts of Europe, &c. The mine in the isle of Anglesey, on the coast of North Wales, produces about 1500 tons of *copper* annually, from between six and seven thousand tons of *ore*. And the copper mines of Cornwall produce in the same period no less than 4000 tons of *copper*. The yearly produce of these last is calculated at £140,000 sterling*. At the beautiful and magnificent palace of the Duke of Devonshire; at Chatsworth, in Derbyshire, on the banks of a fine piece of water, is a tree of *copper*, representing a willow, from every leaf of which water is made to issue, by the turning of a cock, so as to form an artificial shower †. We read in the Scriptures of two vessels of fine *copper*, precious as gold ‡.

Subtract the Anglesey copper from the Cornish, bring the remainder into drachms, and divide them into as many parcels of drachms as there are weeks in the year. *Ans.* 1,433,600,000 drachms; 27,569,230 parcels, $\frac{4}{11}$.

No. 414. SPECTATOR.—The Tatler, Spectator, and Guardian, were periodical papers, published by a few eminent writers in the reign of Queen Anne; a period denominated the Augustan age of English literature.

The Tatler and Spectator not only reduced, as Dr. Johnson justly remarks, the unsettled practice of daily intercourse to propriety and politeness, and exhibited the characters and manners of the age, but superadded literature and criticism, and taught with great justness of argument, and dignity of language, the most important duties and sublime truths. All these topics were happily varied with elegant fictions and refined allegories; and illuminated with different changes of style and felicities of invention. Of essays thus elegant, thus instructive, it is natural to suppose the approbation general; and it is said by Addison, in a subsequent work, that they had a perceptible influence upon the conversation of that time, and taught the frolic and the gay to unite merriment with

* Ency. Brit.

† Beaut. of Art. and Nat. vol. i.

‡ Ezra, viii. 29.

decency; an effect which, adds Johnson, they can never wholly lose, while they continue to be among the first books by which both sexes are initiated in the elegancies of knowledge. The principal writers who undertook the Spectator, which was published daily, were ADDISON* and STEELE*. They found, however, in their progress, numerous auxiliaries: many pieces were offered, and many were received. The papers written by Addison are marked by one or other of the letters in the word CLIO, the muse of history †.

The prose of Addison, says Johnson, is the model of the middle style; pure without scrupulosity, and exact without apparent elaboration. Whoever, continues he, wishes to attain an English style, familiar but not coarse, and elegant but not ostentatious, *must give his days and nights to the volumes of ADDISON ‡.*

In him
Humour and holiday in lightly trim,
Sublimity and attic taste, combin'd
To polish, furnish, and delight the mind.

COWPER.

The ninth number of the Spectator gives a humorous account of several convivial societies. One of these was

* See Chron. and Biog. Exer.

† See Exer. on the Globes, 4th edit.

‡ Horace framed a precept to this purpose in his time, concerning studying the beautiful simplicity of the antique among the Greeks:

——— Vos exemplaria Græca,
Nocturnâ versate manu, versate diurna.

Make the Greek authors your supreme delight,
Read them by day, and study them by night.

FRANCIS.

And of the works of Theocritus § and Virgil §, Boileau has said:

Que leurs tendres écrits, par les Graces dictés
Ne quittent point vos mains, jour et nuit feuilletés.

§ See Chron. and Biog. Exer. 4th edit.

a club

a club of fat men, consisting of 15 persons, weighing together 3 tons. What was the average weight of each individual, in pounds? *Ans.* 448 pounds.

4. No. 415. CORPULENCY.—Corpulency is the state of being too much loaded with flesh or fat; and, according to the sons of Æsculapius*, is the occasion of various diseases, particularly the apoplexy. Runder, in his Tour through Germany, mentions some *fat monks* who weighed on an average, sixteen or eighteen stone each.

The most extraordinary instance of corpulency ever known in this country (till the appearance of the late Mr. Lambert, of Leicester†), was that of Mr. Bright, a tallow-chandler and grocer, of Malden, in Essex, who died in the 29th year of his age. Seven persons of the common size were with ease enclosed in his waistcoat ‡; and a stocking, which when sent home to him was found too little, was large enough to hold a child of four years old. Mr. Bright was esteemed a very honest tradesman, a facetious companion, comely in his person, affable in his temper, a kind husband, a tender father, and a valuable friend. He was interred in the church of "All Saints," Malden, November 12, 1750.

Mr. Bright weighed 153,600 drachms; what was his weight in hundreds, &c.? *Ans.* 5 cwt. 1 qr. 12 lbs. or 42 stone 12 lbs.

No. 416. BELL.—This is a well-known machine, ranked by musicians among the musical instruments of percussion. Bells are observed to be heard further placed on plains than on hills; and still further in valleys than in plains; the reason of which will not be difficult to assign, if it be considered, that the higher the sonorous body is, the rarer is its medium; consequently, the less impulse it receives, and the less proper vehicle it is to convey it to a distance.

* See Exer. on the Globes, 4th edit.

† This singular character died at Stamford in Lincolnshire on the 21st of June 1809. See Chron. and Biog. Exer. 4th edit.

‡ Mr. Long, a tailor at Malden, in 1802, had in his possession the identical waistcoat in which the seven persons above-mentioned were buttoned.

The invention of bells is by some attributed to the Egyptians. Be this as it may, it is certain, that they were always used to announce the festivals in honour of Osiris*. Among the Hebrews, the high priests in grand ceremonies wore a kind of tunic, ornamented with small golden bells; and the prophet Zechariah, xiv. 20. speaks of bells hung to war-horses. At Athens, the priests of Proserpine and Cybele used them during their sacrifices. Bells were known also among the Persians, the Greeks, and the Romans. It is said, that Paulinus, Bishop of Nola, a city of Campania, in Italy, introduced bells into the church, about A. D. 400, to summon the people to divine worship, and to distinguish the canonical hours; but it does not appear that large bells were used before the sixth century. In Britain they were applied to church purpose before the conclusion of the seventh century; being introduced about the time when parish-churches were first erected among us. Those of France and England appear to have been furnished with several bells. In the time of Clothaire II. King of France, and in the year 610, the army of that prince was frightened from the city of Sens, by the ringing of the bells of St. Stephen's church. Bells were baptized about the beginning of the following century. The practice of ringing bells in changes, or regular peals, is said to be peculiar to England; whence Britain has been termed the *ringing island*. The custom seems to have commenced in the times of the Saxons, and was common before the conquest. It is with us reduced to a science, and peals have been composed which bear the names of the inventors. The music of bell is altogether melody; but the pleasure arising from it consists in the variety of interchanges, and the various succession and general predominance of consonances in the sounds produced.

There is in souls a sympathy with sounds;
 And, as the mind is pitch'd, the ear is pleas'd
 With melting airs, or martial, brisk, or grave:
 Some chord in unison with what we hear
 Is touch'd within us, and the heart replies.

* See the next question.

How soft the music of the village bells,
 Falling at intervals upon the ear
 In cadence sweet, now dying all away,
 Now pealing loud again, and louder still,
 Clear and sonorous as the gale comes on!

COWPER.

There are several bells of great magnitude and ponderosity in England; particularly Tom. of Lincoln, weighing 11,200 pounds; Peter of Exeter, weighing 12,500 pounds; and "Mighty Tom" of Christ-Church, Oxford, weighing 17,000 pounds. George of Amboise*, a bell in the steeple of the great church of Rouen, in the department of Lower Seine, France, weighs 36,000 pounds. But the largest bell in the known world is that of Moscow, the ancient capital of the Russian empire. Its height is 19 feet, its circumference at the bottom 21 yards 12 inches, its greatest thickness 23 inches, and its weight 432,000 pounds. The beam to which this vast machine was fastened being accidentally burnt, the bell fell down a few years ago†.

How many tons, &c. does the bell of Moscow weigh?

Ans. 192 tons, 17 cwt. 0 qrs. 16 lbs.

No. 417. Ox.—This is a well-known tame quadruped. There are, however, four sorts of this animal naturally wild. "The strong laborious ox, of honest front," is the only horned animal in these islands that will apply his strength to the service of mankind. And it is now generally allowed, that, in the draught, oxen are, in many cases, more profitable than horses.

The plain ox,
 That harmless, honest, guileless animal,

* George d'Amboise was archbishop of Rouen, prime minister to Louis XII. and one of the best statesmen France ever had. He greatly reformed the church, purged the courts of justice, eased the burdens of the people, and endeavoured, through his whole life, to promote the public happiness. He died in 1510, in the 50th year of his age.

To him alone was Gallia's homage dear;
 To him alone her homage was sincere.

VOLTAIRE'S HENRIADÉ.

† Cox's Trav. vol. i. p. 261.

— whose toil,
Patient and ever ready, clothes the land
With all the pomp of harvest.

THOMSON.

Oxen were anciently employed in the East in treading out the corn; see Deut. xxv. 4; and Homer has described the method of threshing corn by the feet of these animals, as practised in his time and country*:

As with autumnal harvest cover'd o'er,
And thick besfrewn lies Ceres't sacred floor,
When round and round, with never-weary'd pain,
The trampling steers beat out th'unnumber'd grain.

POPE.

In Bombay, and in many other parts of the East-Indies, oxen are generally used instead of horses, not only for drawing carriages, but for riding; and, however ridiculous such a practice may seem to us, it appears that they are not in this respect inferior to ordinary horses, being capable of going at the rate of seven or eight miles an hour †. In Surat there is a small kind of ox, not bigger than a great dog, with a fierce look, which is used for drawing children in a small cart §. In Spain persons are drawn by oxen on parties of pleasure ||.

APIS, a god of the Egyptians, was worshipped under the form of an ox. Some imagine, that Isis and Osiris are the deities honoured under this name, because during their reign they taught the Egyptians agriculture. These people believed, that the soul of Osiris was really departed into the ox, where it wished to dwell, because

* See Quest. 11. p. 15. Quest. 100. p. 58.

† See Corn; Index; and Exer. on the Globes, art. Ceres.

‡ Ency. Brit. art. Bombay.

§ Dr. Rees's New Cyclop. art. Bes.

|| Mr. Southey's Travels, p. 70. The Spanish gentlewomen formerly made no scruple of being carried to their country-houses near the towns, in coaches drawn by two cows yoked together; these carried the Signora a pretty round trot unto her villa, afforded her also a dish of their milk, and brought her home again at night without spending a penny.

that

that animal had been of the most essential service in the cultivation of the ground.

Among the amazing number of dexterous expedients which Hannibal occasionally employed to deceive his enemies and extricate himself out of difficulties, one of the most memorable was his ordering small bavins or torches to be fastened to the horns of *two thousand oxen*, and then lighted; a stratagem by which he was enabled to withdraw his army from a situation imminently perilous*.

It is recorded by several ancient writers, that *MILLO*, the celebrated athlete of Crotona †, in Italy, could carry an ox the space of forty yards, kill it with one blow of his fist, and eat it up in one day.

DIDO, Queen of Carthage, we are told, when she landed in Africa, bought as much land as she could compass with an ox's hide; which she artfully cut into small thongs, and thus cheated the owner of so much ground as served her to build Carthage upon. To this circumstance the following lines in *Hudibras* allude:

The mighty Tyrian queen, that gain'd
With subtle shreds a tract of land.

A similar artifice is said to have been practised by the crafty Hollanders upon the inhabitants of *Formosa*, an island near China, in Asia ‡.

There is scarcely any part of the ox but what is used either in manufactures, commerce, or medicine. The skin has been of great use in all ages. The ancient Britons built their boats with osiers, and covered them with the hides of bulls, which served them for short coasting voyages.

The bending willows into barks they twine;
Then line the work with spoils of slaughter'd kine.
Such are the floats Venetian fishers know,
When in dull marshes stands the settling Po;

* See the lives of Hannibal and Fabius in Plutarch; or Goldsmith's Roman Hist. vol. i. p. 265. 8vo. edit. 1769.

† See Exer. on the Globes, 4th edit.

‡ See Payne's Geog. vol. i. p. 64.

On such to neigh'ring Gaul, allug'd by gain,
The bolder Britons cross the swelling main.

ROWE'S LUCAN.

At present the hide, when tanned and curried, serves for boots, shoes, and numberless conveniences of life. Of the horns are made combs, boxes, handles for knives, and drinking vessels; and when softened by water, obeying the manufacturer's hands, they form pellucid laminæ for the sides of lanterns. This last conveniency we owe to the eminently great and good King ALFRED. Horns are also employed in medicine as alexipharmics. The ox's bones are used by mechanics where ivory is too expensive; by which the common people are served with many neat conveniences at an easy rate. The blood is the basis of that fine colour the Prussian blue. For numerous other particulars we refer our young readers to the Ency. Brit. art. Bos.

The famous Lincolnshire ox, which was exhibited some time ago in London, is said to have weighed 33 cwt.; and in January 1793, several periodical publications mentioned an ox sold by Mr. Child, of Abingdon, which weighed, when alive, 1 ton, 5 cwt. 2 qrs. 14 lb*. Add the weight of these enormous animals together, and bring the total into drachms. *Ans.* 1,680,896 drachms.

No. 418. PENNY AND TWO-PENNY PIECES.—These elegant efforts of ingenuity do great credit to the taste of that admirable artist the late Mr. BOULTON †, of Birmingham, under whose direction they were fabricated. The execution of the two-penny pieces, in particular, is considered as an extremely accurate and beautiful specimen of this kind of engraving; and the head of his Majesty is allowed to be one of the best medallic likenesses of our ami-

* Mr. Spottiswoode, of Spottiswoode, near Dunse in Berwickshire, bred an ox which he sold for 200 guineas. It was exhibited at Berwick upon Tweed and other places in 1802, and was supposed to be the largest ever reared in Britain, if not in the world; weighing, it was said, 320 stone (14lbs. each) or two tons! See *Quest.* 288. p. 156.

† See *Chron.* and *Biog. Exer.* 4th edit.

able and beloved monarch ever exhibited. Farthings and halfpence being at present rapidly decreasing in value, and in danger of soon sinking into a state of pecuniary insignificance, the penny and two-penny pieces will probably shortly become the chief mediums of petty traffic, and the most convenient vehicles in which small portions of property can be transferred from hand to hand*.

The number of penny-pieces which have been lately coined and actually circulated, amounts to 40,000,000, each weighing exactly an ounce; of course the halfpence of the same coinage weigh half an ounce, and the farthings a quarter of an ounce. How many tons, &c. are in the above number of penny-pieces; how many pounds sterling do they contain; and, supposing the number of inhabitants of England to be seven millions and a half, and those of Scotland to be two millions and a half, and the penny-pieces to be distributed in equal portions among the whole, what would be each person's share? *Ans.* 1,116 tons, 1 cwt. 1 qr. 20 lbs. weight; £166,666 13s. 4d. value; 4 each persons share.

NO. 419. PETER THE GREAT'S MONUMENT AT PETERSBURG.—One of the noblest monuments of the gratitude and veneration paid to Peter the Great †, is the equestrian statue of that monarch in bronze; it is of a colossal size, and is the work of Monsieur FALCONET, the celebrated French statuary, cast at the expence of the late Catharine II ‡. in honour of her great predecessor, whom she revered and imitated. It represents Peter in the attitude of mounting a precipice, the summit of which he has nearly attained. He appears crowned with laurel, in a loose Asiatic vest, and sitting on a housing of bear-skin: his right-hand is stretched out with great dignity, as in the act of giving benediction to his people; while the left holds the bridle of his horse, whose beauty of form and elegant posture captivate all beholders. He stands only on his hinder feet, and is in the attitude of a fiery courser resolved to arrive at the pinnacle of the rock on which it

* See Quest. 366. p. 172.

† See Chron. and Biog. Exer.

‡ See Chron. and Biog. Exer.

is placed. This is an enormous pedestal of reddish granite, *a single stone*, the largest ever known in the world, weighing, by a geometrical calculation, no less than 3,200,000 lbs. a bulk greatly surpassing in weight the most boasted monuments of Roman grandeur. This stupendous mass was removed from a morsel eight miles distance from Petersburg, and the statue was erected on 4th August 7, or according to other accounts, August 27, 1782*.

How many tons, cwts. qrs. and lbs. do the lbs. mentioned in this question contain? *Ans.* 1,428 tons, 11 cwt. 1 qr. 20 lbs.

APOTHECARIES WEIGHT.

The COMPANY OF APOTHECARIES were incorporated by a charter from James I. procured at the solicitation of Dr. Mayerne † and Dr. Atkins. Till that time they only made a part of the grocers' company; plums, sugar, spice, Venice treacle, mithridate, &c. being sold in the same shop, and by the same person. The reason of separating them was, that medicines might be better prepared, and in opposition to divers persons who imposed unwholesome remedies on the people. To his majesty belong two apothecaries: the salary to the first is £320, to the second £275. To the household belong also two. The first mention of an apothecary attending the king's person in England is about 1344, in the reign of Edward III. who settled a pension of 3d. per day for life, on Courfus de Gangeland, for having taken care of him during his illness in Scotland.

In a parliament called by Henry VIII. A. D. 1514, it was enacted, that surgeons should be discharged of consta-

* See Mr. Coxe's Travels, vol. i. p. 424, &c. Mr. Wraxall's Tour, p. 224, &c. and Mr. Tooke's Life of Catherine II. vol. iii. p. 204.

† Dr. Mayerne was born at Geneva in 1572. He was physician to Henry IV. of France, and afterwards to our James I. He enjoyed the highest professional reputation, and died in 1655, at Chelsea, possessed of a large fortune.

bleship, ward duties, bearing of arms, and of inquests and juries; by reason of the continual service and attendance they give day and night, and at all hours, to their patients*: and by an act passed in the reign of Queen Anne; apothecaries are exempted from serving ward and parish offices, or on juries.

Travellers speak of a famous apothecary's shop at Dresden, in Germany, furnished with 4,000 silver pots, all filled with the choicest drugs: and the dispensary, or apothecary's office, at Loretto †, is said to contain upwards of 340 large gallipots of beautiful Faenza ‡ porcelain, exquisitely painted with boys, bacchanals, &c. by the famous Raphael. The Chinese dispense medicines gratis to all the poor who stand in need of any relief from physic.

The COLLEGE OF PHYSICIANS was instituted in the year 1518, in the reign of Henry VIII. whose charter for

* Rapin, vol. vi. p. 95.

† Loretto is a small town near the gulph of Venice, a few miles south of Ancona in Italy. Some suppose that it received its name from the number of laurels * in its vicinity. It has been long celebrated for its religious reliques, riches, and the immense number of pilgrims who visit it annually. This is occasioned by its containing the *Sancta Casa*, or Holy Cabin, or House of Nazareth, in which (as the popish legends affirm) our Lord's mother was born, and he himself brought up till he was twelve years old. According to these contemptible tales, it was first carried by angels into Dalmatia, a country east of the gulph of Venice, about A. D. 1291, and a few years afterwards removed by the same celestial porters to this place. This pretended miracle happened in the pontificate of Pope Boniface VIII. a cunning, artful, and avaricious man, capable of executing the basest designs to increase the revenues of the church. The period too was peculiarly favourable to imposture, the mass of professing Christians having been so long plunged in gross ignorance, and so besotted with superstition, that they were ready blindly to believe any thing, how contrary soever to sense and reason. The vulgar, indeed, at all times, content themselves to be guided by vulgar opinions. They know little, and believe much; and on all important subjects they resign themselves to the authority that prevails among those with whom they live. See Quest. 89, p. 46. and Exer. on the Globes, art. Oracle and Augurs.

‡ See Quest. 307, p. 158.

* See Quest. 209, p. 96.

that purpose bears date October 29. By the appointment in this corporation, or college, are included the physicians in London, and seven miles round that city*. By other statutes in 1540, in the reign of Henry VIII. it was enacted, that physicians in London should be discharged from watch and ward, and not serve the office of constable, or any other: also that the president, and four fellows of the college, shall search and examine the wares and drugs of the apothecaries; and that they may practise surgery.

No. 420. In 27 lbs. 7 oz. 2 drs. 1 scr. 2 grs. how many grains? *Ans.* 159,022 grains.

No. 421. In 159,022 grains, how many pounds, ounces, drachms, scruples, and grains? *Ans.* 27 lbs. 7 oz. 2 drs. 1 scr. 2 grs.

CLOTH MEASURE.

The word cloth, taken absolutely, commonly means a texture of wool; but it is also used to denote any thing woven for dress or covering, whether of animal or vegetable substance. The art of weaving woollen cloth was brought into England from Flanders, by John Kempe, in the year 1331.

Fine linen is made from a fibrous plant called flax; and coarse linen from a plant of the same kind denominated hemp. These, however, are not the only materials that supply it; for a cloth is sold at Leipsic, in Germany, said to be made of nettles; and, in Sweden, they fabricate a coarse sort from hop-binds, or hop-tops. Linen is said to have been first manufactured in England by Flemish weavers, under the protection of Henry III. in 1253; antecedent to which æra, woollen shirts were the only ones worn in this country. In 1634, Lord-Deputy Wentworth established the linen manufacture in Ireland, where it has been brought to a great degree of perfection. The same commodity is the staple of Scotland; and the Russians, Germans, Swifs, Flemings, Hollanders, and French, are the principal European nations who traffic in it.

* Rapin, vol. vi. p. 147.

The use of linen is of very remote antiquity. Upon Joseph's exaltation to the viceroyship of Egypt, vestures of fine linen are marked as the principal ornaments of his state attire*. Indeed, by the frequent mention made of the Egyptian linen by the ancients, many learned men have been induced to assert, that it was of far superior fineness and value to any of modern manufacture. Late investigation has, however, evinced the fallacy of this assumption. For, when Dr. Hadley, in conjunction with other intelligent persons, examined an Egyptian mummy †, of which an account is given in the Philosophical Transactions for 1764, they found the upper filleting scarcely equal in fineness to what was sold at that time for 2s. 4d. a yard, under the name of long lawn; and the inner filleting, in general, still coarser. Now, there is every reason to suppose the linen, in which the mummies were wrapped, to have been the finest at that time in Egypt; because embalming was only practised towards the remains of persons of high distinction, at whose interment no charges were spared. Another ingenious writer ‡ has also amply refuted the same notion, by citations from authors and travellers of acknowledged credit, who had professedly discussed, or occasionally adverted to, the subject under consideration. On the authority, therefore, of these accounts, and the force of the inferences deduced from them, we are warranted in affirming, that the Egyptian linen was solely indebted for its celebrity to the comparative inferiority of every other, at the same period. That, however, other nations were by no means strangers to the same manufacture, is with great probability inferred, by the respectable writer just alluded to, from the story of Rahab, Josh. ii. 6. as well as from the portrait of a virtuous

* Gen. xli. 42.

† A mummy is a dead body preserved by the Egyptian art of embalming. See Quest. 208, p. 95. Some of these have lasted three thousand years.

‡ Harmer. See his excellent Observations on divers Passages of Scripture, vol. ii. p. 349, et seq.

Jewish matron, Prov. xxxi. 13, 24. Linen, in Europe, is nevertheless a luxury of the latter ages; for it is certain that even the polished Greeks and Romans did not commonly use garments of this material. Thus it has been remarked of Augustus, the master of the Roman world, that he had not a shirt to his back*. Neither were the tablos of the ancients covered with linen, but were cleaned with wet sponges;

The seats with purple clothe in order due,
And let th' absterfive sponge the board renew.

POPE'S HOMER.

Nor did they make use of napkins to wipe their hands; but employed for that purpose the soft and fine part of the bread, which they afterwards threw to the dogs; a custom mentioned by the same great poet:

As from some feast a man returning late,
His faithful dogs all meet him at the gate,
Rejoicing round, some morsel to receive,
Such as the good were ever wont to give.

Hence we may clearly understand what were "the crumbs which fell from the rich man's table;" and perceive the force of the words of the woman of Canaan, "The dogs eat of the crumbs which fall from their master's table." See Matth. xv. 27. Mark vii. 28. and Luke xvi. 21.

* The place of shirts among the Jews, Greeks, and Romans, was supplied by their *tunicæ* of wool. The want of linen among the ancients made frequent washings and ablutions necessary.

The *tunica* was a kind of waistcoat, or under garment fastened round the body, and embracing it closely, falling down to the mid-thigh. The common people usually wore only a tunic, not being able to purchase a toga or gown; hence Horace calls them *tunicatus populus*, an epithet of similar import with those so liberally bestowed by Shakspeare upon our own populace*. The people of better fashion wore a gown, or mantle, over the tunic; the philosophers generally appeared in a gown without a tunic, as professing to go half naked. See the late Dr. Adam's excellent work entitled Roman Antiquities.

* See Quæst. 246, p. 1311

Linen, when worn to rags, has still a considerable value; for the finest writing and printing paper is made from it. See Paper, Index.

No. 422. SCOTCH REBELLIONS.—Soon after the accession of George I. a rebellion was raised in Scotland, in favour of the son of James II. known in our history by the title of the *Pretender*, who landed at Peterhead, in Aberdeenshire, Dec. 26, 1715. Being weakly projected, and rashly and injudiciously conducted, this insurrection was soon suppressed, and the prisons of London were crowded with the daring adventurer's deluded adherents. The Pretender himself escaped from Montrose, in Angus, or Forfarshire, on board a French ship lying in the harbour, and arrived in five days at Gravelines, a sea-port between Calais and Dunkirk; situated in (late) French Flanders, now in the department of the North. The Earl of Derwentwater and Lord Kenmuir were decapitated on Tower-Hill; and several of the rebels were executed in other places.

The national tranquillity was again disturbed in the reign of George II. A. D. 1745, by another adventurer. This was the son of the old Pretender, and commonly called the *Young Pretender*. This aspiring claimant landed in Scotland, and the boldness of the enterprize astonished all Europe. After gaining some trifling advantages over the king's forces in that country, he made an irruption into England, and, for a short time, greatly alarmed the pusillanimous part of the nation*. Retreating northwards again, he was at length totally defeated by the Duke of Cumberland, in the battle of CULLOCHEN†, near INVERNESS in Scotland, A. D. 1746. Immediately after the engagement, the Pretender fought safely by flight. He continued wandering among the frightful wilds of Scotland for nearly six months; and as thirty thousand pounds were offered for taking him, he was constantly pursued by the troops of the conqueror, and often hemmed round by his pursuers, but still rescued by some lucky accident from the impending danger; and

* See Chron. and Biog. Exer. Sept. 21, 1745, and Dec. 4, 1745.

† See Chron. and Biog. Exer.

at length he escaped from the isle of Uist to Morlaix, now in the department of Finisterre, France. In the mean time, the scaffolds and gibbets were preparing for his adherents, many of whom were hanged in the neighbourhood of London, and other parts. The Earl of Kilmarnock*, and the Lords Balmerino* and Lovat*, were beheaded on Tower-Hill. Thus ended the last effort of the STUARTS for re-ascending the throne. The inhabitants of LONDON distinguished themselves by their zeal for the government in the course of this rebellion. Upwards of £18,000 were subscribed at Guildhall, for the relief of the soldiers employed in the king's service. A great variety of clothing was in consequence conveyed to the army; and, among other articles, 20,000 shirts were sent.

Supposing each shirt to contain $3\frac{1}{4}$ yards, what number of nails did the whole contain? *Ans.* 1,120,000 nails.

No. 423: WEAVING INGENUITY.—Weaving is the art of working a web of cloth, silk, or other stuff, in a loom with a shuttle. The web is formed of threads interwoven with each other; those extended in length are called the warp; the others, which are drawn across, are denominated the woof.

Penelope, for her Ulysses' sake,
Devis'd a web her wooers to deceive;
In which the work that she all day did make,
The same at night she did again unweave †.

SPENSER.

It is difficult to say, with any certainty, to whom we owe this most admirable invention, unless we choose to ascribe it to the spider, that poisonous but ingenious little insect, which draws certain infinitely fine threads

* See Chron. and Biog. Exer.

† This artifice of Penelope has given rise to the proverb of "Penelope's Web," which is applied to whatever labour can never be ended. See Lempriere's Dict.

from

from its own substance; or, perhaps to the silk-worm, as Pope conjectures.

“ Learn of the worm to weave *.”

Mr. Pennant† informs us, that there was a weaver residing at Wick, in Caithness, Scotland, who could weave a shirt, with buttons and holes entire, without any seam, or the least use of the needle. The value of one of these garments was £5 sterling. A muslin shirt, without any seam, which was made in a loom in the East-Indies, was exhibited at Parkinson's Museum; and in the Gazetteer of Scotland, mention is made of several weavers in that country, who could fabricate garments similar to that made at Wick.

Our Saviour's vest, or coat, had not any seam, being woven from the top throughout, in one whole piece‡. Perhaps, says Dr. Doddridge, this curious garment might be the work and present of some pious women who attended him, and ministered unto him of their substance, Luke viii. 3. The print of a frame for weaving such a vest may be seen in Calmer's Dictionary, on the word *Vestments*, vol. iii. p. 119. old edition.

Supposing the shirt made at Wick to contain $3\frac{1}{4}$ yards, how many ells English would 500 such shirts contain? *Ans.* 1,500 ells.

No. 424. ASBESTOS.—The asbestos is a sort of fossil stone, which may be split into threads and filaments, and wrought into cloth.

Ingenious trade! to clothe the naked world,
Her soft materials, not from sheep alone,
From various animals, reeds, trees, and stones,
Collects sagacious.

DYER.

* See Exercises on the Globes, art. Augur,* concerning the obligations which man had to various animals in the first acquisition of many useful arts.

† See Chron. and Biog. Exer.

‡ John, xix. 23.

Cloth

Cloth made of the extraordinary fossil production now under consideration, is endued with the wonderful property of remaining unconsumed in the fire.

The soft asbestos form'd SERENA's vest,
Whose wond'rous folds, in fiercest flames entire,
Mock the vain ravage of consuming fire.

HAYLEY'S *Triumphs of Temper.*

Supposing Serena's vest to have contained $12\frac{1}{4}$ yards; how many ells Flemish would 365 such garments contain?
Ans. 6,205 ells Flemish.

N. B. The asbestos is found in the Isle of Anglesey, and in Aberdeenshire, Scotland, &c.

No. 425. HUCKABACK.—Huckaback is a kind of linen on which the figures are raised. It is much used for table-cloths and napkins.

Clean hag-abag I'll spread upon his board,
And serve him with the best we can afford.

GENTLE SHEPHERD.

Darlington, in the county of Durham, has long been noted for the manufacture of huckabacks. This linen is made from English flax, brought from the South of Yorkshire; and partly from foreign flax, imported at Stockton. Most of it goes to London by sea*.

In 3 dozen napkins, each containing 20 nails, and 1 dozen table cloths, each containing 38 nails, how many yards? *Ans.* 78 yards 2 quarters.

No. 426. CAMBRIC.—Cambric is a species of linen made of flax, very fine and white; the name of which was originally derived from the city of Cambray†,

* Dr. Aikin's England Delineated.

† Cambray is one of the most opulent and commercial cities in the Netherlands. It is situated on the river Scheldt. The celebrated FENELON, author of *Telemachus*, &c. was archbishop of this place. See Chron. and Biog. Exer. for a more particular account of this amiable man.

where

where cambrics were first manufactured. The cambrics allowed to be worn in this country are fabricated in Scotland and Ireland.

In 365 yards of cambric, how many handkerchiefs of $\frac{3}{4}$ of a yard; 1 yard; 1 yard and $\frac{1}{4}$; and 1 yard and $\frac{1}{2}$ each; and of each an equal number? *Ans.* 81 of each, $\frac{2}{18}$.

No. 427. IRISH LINEN.—A colony of Scots in the reign of James I. and other Presbyterians*, who fled from persecution in that country in the succeeding inglorious reigns, planted themselves in the North-East part of Ireland, and established that great staple of wealth, the linen manufactory, which has been since not only brought to the utmost degree of perfection in that particular district, but has been extended over great part of the kingdom; and which, including the fabrication of thread, has given employment to an immense number of persons, and brought vast sums into the nation; it being chiefly by the exportation of this article that the Irish are enabled to pay for the great annual importation of others from England. It is of great importance to Ireland, that flax, the basis of this manufacture, is of home growth, and of the most excellent quality. From the very moment of the seed being put into the ground, to the time of its being exhibited in the market, in the form of a piece of white linen, every thing is the native growth of the soil, every thing the productive labour of the inhabitants. Hence all the ablest writers on the political affairs of Ireland, unanimously concur in pointing out the linen-manufacture as the prime object of her exertions.

In the year 1794, there were 43,259,764 yards of linen exported from Ireland; how many parcels, each containing 20 pieces, each 25 yards and $\frac{1}{2}$, does that number of yards contain? *Ans.* 84,823 parcels, 34 yards.

No. 428. SCOTCH LINEN.—The several manufactures of Scotland are, in general, very extensive, and

* See "Evans's Sketch, &c." or Chron. and Biog. Exer.

daily increasing. But the linen manufacture, though till lately in a thriving state, is said to be at present rather on the decline. This is ascribed chiefly to the powerful rivalship from Ireland, combined with the high price of the raw material. A sensible writer on the commerce of Scotland says, however, that there is every reason to suppose, that in a short time the trade will return to its former channel. In some parts of Scotland the linen manufacture has given place to the cotton, and in a few instances to the woollen manufacture. In Glasgow alone the value of cotton manufactured in 1791 was calculated at £1,500,000; and at Perth this branch is in a very flourishing state; though linen still continues its staple commodity. The annual exports of various linens, cambrics, osnaburgs, damasks, diapers, &c. amounted some years ago to upwards of £400,000 sterling, exclusive of the home consumption. See the Gazetteer of Scotland.

In $75\frac{3}{4}$ yards of cambric, $54\frac{1}{2}$ yards of silefias*, and $24\frac{1}{2}$ yards of damask, how many nails? *Ans.* 4,072 nails.

No. 429. OSNABURGS.—Osnaburgs are a kind of coarse linen, first made at Osnaburg†, in Westphalia, Germany; of which there are two kinds, the one white and the other brown. The manufacture of the white is well understood in our own country; but the method practised in Germany of making the brown sort, and of giving it its peculiar colour, is not known. Some have supposed, that it depends on the manner of bleaching the flax, and others on that of bleaching the yarn after it is spun.

Dundee is a large and flourishing town of Angus, or Forfarshire, in Scotland, seated on the North side of the estuary of the Tay. From this town vast quantities of osnaburgs are annually exported; in one year four

* Silefias are thin linens, which are chiefly manufactured at Crieff, a small town in Perthshire. Silesia is a district in the eastern part of Germany. Its linen manufactures are at present in a very flourishing state. ODDY'S European Commerce.

† See Chron. and Biog Exer.

millions of yards have been stamped at the public office*.

How many parcels, each containing 10 pieces, each 26 yards and $\frac{1}{2}$, are in the quantity of ofnaburghs above mentioned? *Ans.* 15,094 parcels, 90 yards.

No. 430. **DIAPER.**—Diaper is a sort of linen cloth woven in flowers, and other figures; by some reckoned the finest species of figured linen after damask. The word diaper is used by Shakspeare to denote a napkin or towel. This cloth is said to have received its name from the town d'Iper, now called Ypres, where it was first made. Ypres is situated on a river of the same name in the Netherlands, a few miles north of Lisle, and has considerable cloth and serge manufactories. Dumfermline †, in Fifeshire, Scotland, has been long distinguished for the manufacture of diaper or table linen; for many years no other cloth has been woven there to any considerable extent. There are nearly 1200 looms employed; and the value of the goods manufactured has for some time past been from £50,000 to £60,000 sterling per annum. Astonishing improvements have been made in this branch within these 50 years; and by the application of machinery, human labour has been greatly abridged.

In 50 pieces of diaper, each consisting of 24 yards, how many parcels severally containing 5 ells English, 6 ells French, and 7 ells Flemish, and of each an equal number? *Ans.* 58 parcels $\frac{1}{2}$.

No. 431. **DAMASK.**—Damask is a kind of wrought linen made in Flanders; so called, because its large flowers resemble those of damasks, which were a sort of silk stuffs, having some parts raised above the ground, representing flowers or other figures. They obtained this appellation from their having been invented at Damaf-

* Scotland delineated, p. 156, &c. Chron. and Biog. Exer. and the Gaz. of Scotland.

† Dumfermline was the birth-place of Charles I. in 1600. See Index, and Chron. and Biog. Exer.

cus*, in Syria, a place also noted for its steel†, its roses‡, and its damascene plums, or damsons.

Damask linen is chiefly used for tables: a table-cloth, and a dozen of napkins, are called a *damask-service*.

In a dozen damask-services, the table-cloths containing 5 yards and $\frac{1}{4}$ each, and the napkins 1 yard and $\frac{1}{4}$ each, how many quarters and nails? *Ans.* 996 quarters, 3,984 nails.

No. 432. HOLLAND.—Holland, in linen-drapery, is a fine, white, even, close kind of linen cloth, chiefly used for shirts, sheets, &c.

Some for the pride of Turkish courts design'd
For folded turbants § finest holland bear.

DRYDEN.

It is principally wrought in the provinces of Holland, Friesland, and the other parts of the United Provinces; whence the appellation. The chief mart or staple of

* In a journey to this place, the apostle Paul was miraculously converted to the Christian faith; and here he began to preach the gospel. See Chron and Biog. Exer June 29, 66

† Hence the term damaskeening, which is the art of enriching sword-blades, locks of pistols, &c. by inlaying them with gold or silver. Toledo, Bilboa, and Vittoria, in Spain, are likewise celebrated for the superior excellency of their steel.

‡ The rose of Damascus is sweet scented and of a red colour; see Chron. and Biog. Exer. art. June.

No gradual bloom is wanting from the bud,
Nor broad carnations, nor gay spotted pinks,
Nor, shower'd from ev'ry bush, the damask-rose.

THOMSON.

§ The turbant is the head-dress of most of the eastern nations. It consists of two parts, a cap and a sash of fine linen or taffety artfully wound in divers plaits about the cap. The making of them is a particular trade. The sash of the Turks turbant is white linen; that of the Persians red woollen. These are the distinguishing marks of their different religions. Sophi, king of Persia, being of the sect of Ali, was the first who assumed the red colour, to distinguish himself from the Turks, who are of the sect of Omar, and whom the Persians esteem heretics.

this

this cloth is at Haerlem, in Holland, whither it is sent from most other places as soon as woven, there to be whitened in the ensuing spring.

In Shakspeare, the hostess tells Falstaff, that the shirts she bought him were holland, at eight shillings a yard; a high price at this day, even supposing, what is not probable, that the best holland at that time was equal in goodness to the best that can now be purchased. Hence Hume concludes, that the finer manufactures, by the progress of arts and industry, have rather diminished in price, notwithstanding the great increase of money*.

How many dozen of shirts, each shirt containing 3 yards and $\frac{1}{4}$, can be made from 16 pieces of holland, each 26 yards and $\frac{1}{4}$? *Ans.* 9 dozen $\frac{1}{2} \frac{2}{3}$.

No. 433. FEMALE PATRIOTISM.—The generous exertions of the American daughters of liberty in Philadelphia, and the neighbourhood, to assist the continental soldiers, in the war with England, are mentioned with deserved approbation by Dr. Gordon. Desirous of sharing with the gentlemen of America in the splendors of patriotism, and aspiring to the honour of giving the army some public mark of the esteem they entertained of their virtue, they formed a female association, and collected subscriptions for this purpose. Their donations, says the historian, purchased a sufficient quantity of cloth, and their hands made the same into two thousand one hundred and seven shirts, which were delivered to the person appointed to receive them by General WASHINGTON †, the patriotic champion who so nobly defended the standard of liberty in the new world, and in the issue of the struggle “taught a lesson useful alike to those who inflict, and to those who feel oppression ‡.”

Supposing

* Hist. Eng. vol. vi. p. 176.

† Dr. Gordon's Hist. Amer. Rev. vol. iii. p. 376. 496.

‡ This illustrious chief, this first of men, closed his virtuous and heroic life, without a sigh or a groan, in the 66th year of his age, on Saturday the 14th of December 1799, at Mount Vernon, his much-celebrated family seat, whither he had retired from the tumultuous scene of a busy world: here his remains were deposited with great funeral pomp, and the veneration of America accompanied him to the grave.

Supposing each shirt contained 3 yards and $\frac{1}{4}$, how many pieces, each consisting of 25 yards and $\frac{1}{2}$, must the American ladies have purchased, to have accomplished their patriotic purpose? *Ans.* 268 pieces, 13 yards $\frac{1}{4}$.

No. 434. DISTRESS OCCASIONED BY WAR.—An ingenious foreigner, speaking on this subject, has well remarked, that freemen are compelled to carry a musquet, and affix to it the infernal bayonet *; they are torn from the peaceful cottage, and are trained up for war, which their souls abhor. The labourer is forced from his plough, the artizan from his trade, the husband from a desolate family, and the dutiful youth from an infirm parent †. According to our sublime bard,

“ They err who count it glorious to subdue
 “ By conquest far and wide; to over-run
 “ Large countries, and in field great battles win,
 “ Great cities by assault ‡ :”

GENERAL WASHINGTON, it has been well observed, is not the idol of a day, but the hero of ages. His long life is not stained by a single blot. He was a conqueror for the freedom of his country! a legislator for its security! a magistrate for its happiness! His glories were never sullied by those excesses into which the highest qualities are apt to degenerate. With the greatest virtues, he was exempt from the corresponding vices. He was a man in whom the elements were so mixed, that “ Nature might have stood up to all the world,” and owned him as her work. His fame, bounded by no country, will be confined to no age. His spotless character, which his contemporaries so much admire, will be transmitted entire to posterity, and the memory of his virtues revered and cherished, while patriotism and virtue are held sacred among men. See Marshall’s *Life of George Washington*.

MOUNT VERNON, so called from the gallant admiral of that name, is a delightful mansion situated on the Virginian bank of the Potomack, nine miles South of Alexandria, and about fourteen from the superb city of WASHINGTON, which obtained its name in honour of the saviour of America. It is at present the seat of government of the United States. For a particular account of Mount Vernon, Washington, and Alexandria, see Dr. Morse’s *American Gazetteer*.

* See Index.

† See War, Index; also Exercises on the Globes, art. Crus.

‡ MILTON, *Paradise Regained*.

but

but the generality of writers, both in verse and in prose, are so profuse in their adulation of conquerors, that the solitary protest even of the great Milton will not be much regarded.

Spain, says Mr. Townsend *, was so exhausted by continual wars in Italy and Flanders, and by emigrations to America, wanting at the same time every encouragement to industry at home, that wretchedness so universally prevailed, that in the year 1660, it was computed that there were 3,000,000 of persons who wore no shirts, because they could not afford to purchase linen. May we not, on occasions like this, exclaim with Homer,

Curs'd is the man, and void of law and right,
Unworthy property, unworthy light,
Unfit for public rule, or private care,
That wretch, that monster, who delights in war ;
Whose lust is murder, and whose horrid joy,
To tear his country, and his kind destroy.

Allowing $3\frac{1}{2}$ yards to each shirt, how many yards would have furnished a shirt apiece for the persons mentioned above? *Ans.* 10,500,000 yards.

LONG MEASURE.

No. 435. VOLCANO.—

The first Almighty Cause
Acts not by partial, but by gen'ral laws.

POPE.

That partial evil is universal good, is a proposition which has been repeatedly illustrated by the best moral writers. The sun, it has been remarked, that burns up the mountains, fructifies the vales ; the deluge that rushes down the broken rocks with dreadful impetuosity, is separated into purling brooks ; the rage of the hurricane

* Journey, vol. ii. p. 165.

purifies the air; and *the dread volcano ministers to good; its smothered flames might undermine the world.*

Volcano is a name given to burning mountains, or to vents for subterraneous fires that emit or eject flames, ashes, cinders, stones, liquid sulphur, and other substances. The principal apertures of this kind in Europe are, ETNA * in Sicily, VESUVIUS † in Naples, HECCLA in Iceland, and STROMBOLI ‡, one of the Lipari Islands, North of Sicily. So late as the year 1783, a volcanic eruption in Iceland surpassed any thing recorded in history. The lava spouted up in three places, to the height of two miles perpendicular, and continued thus for two months; during which time it covered a tract of 3,600 square miles of ground, in some places more than 100 feet deep §. The eruptions and flame from mount Etna are seen, by those who sail in the Mediterranean sea, at the distance of 168 English miles; and in 1536, this volcano raged with such peculiar violence, that it shook all Sicily, and disgorged a great quantity of ashes, which were not only dispersed all over the island, but also carried beyond sea to Italy; so that several ships, then on their passage to Venice, at two hundred leagues distance, suffered damage. How many yards are in that space? *Ans.* 1,056,000.

N. B. The eruption of Etna, in 1669, destroyed 27,000 human habitations, and 17,000 persons perished by it in Catania.

No. 436. VESUVIUS.—In the year 79 occurred the first eruption of Vesuvius on record. It happened in the time of Vespasian, when Pliny || the elder, a celebrated natural philosopher, having been prompted by curiosity to observe its effects, was suffocated with the sulphu-

* See Empedocles in Lempriere's Clafs. Dict. or Etna in Bourn's Gaz.

† See Chron. and Biog. Exer.

‡ See Chron. and Biog. Exer.

§ Chronological Tab. in the Ency. Brit.

|| See Chron. and Biog. Exer.

reous smoke. Herculaneum was also overwhelmed at the same time; and, like Pompeii and other cities, was thought to have been utterly destroyed, till the beginning of the last century, when it was discovered, and many of the houses were found perfectly furnished, with the furniture in good preservation. It is situated 8 miles from Naples. How many inches and barley-corns are in that space? *Ans.* 506,880 inches; 1,520,640 barley-corns.

No. 437. SILK-MILL.—At Derby there is a wonderful machine, the only one of its kind in England. It is an engine for making organzine or thrown silk, by which invention one person can twist as much silk as could be performed by fifty in the usual way, and that in a truer and better manner. The model of this celebrated piece of mechanism is said to have been clandestinely taken by the cousin of the late Sir Thomas Lombe, merchant of London, from the original in the King of Sardinia's dominions, about the year 1714. The two cousins, acting in concert, employed an excellent mechanic, named Soracle, and completed the whole machinery, which has greatly encouraged the silk manufacture of this kingdom, and saves a great deal of money to the nation, formerly paid to the Piedmontese for organzine silk. This grand machine contains 26,586 wheels, and 97,746 movements, and one water-wheel communicates motion to all the rest of the wheels and movements, of which any one may be stopped separately and independently of the rest. One fire engine conveys air to every part of the machine; and one regulator governs the whole; 73,728 yards of silk are wound every time the water-wheel goes round, which is three times in a minute; so that 318,504,960 yards may be wound in 24 hours: how many miles and leagues are contained in this quantity? *Ans.* 180,968 miles, 1,280 yards; 60,322 leagues, 2 miles.

No. 438. HANNIBAL'S MARCH.—This renowned Carthaginian general set out from New Carthage, now called Carthagena, in Murcia, Spain, to invade Italy. Hannibal, in his march, crossed the Pyrenean hills; the

river Rhone, near Avignon, in France; and the Alps*. In traversing these high mountains he encountered extreme fatigue, and lost a considerable part of his army.

In vain the ærial Alps before him throw
 Their icy barriers of eternal snow;
 In vain the unfathom'd caves of death display,
 And all the horrors of the impervious way;
 With ceaseless toil their arduous heights he gains,
 And fierce descending on the Hesperian plains,
 Sweeps o'er their surface, like a mountain-flood,
 And gluts his dire revenge with Roman blood.

JACOBINISM.

This invasion was productive of innumerable disasters, and almost total ruin, to the Roman state. He defeated their numerous forces (always with prodigious slaughter) near the river Ticinus†; near the Trebia‡; near the lake Thrasymenus§; and, finally, near Cannæ||; the most

* Prince Eugene crossed the Alps with an army, in 1706, previous to the battle of Turin; as did also Bonaparte before his conquest of Italy.

† Ticinus, now called Tesino, is an Italian river of the Milanese, running through Pavia into the celebrated Po. It was remarkable for its slow and pellucid stream:

“ Its tide, transparent, scarce is seen to creep,
 “ And with low murmurs soft invites to sleep!”

The consul Scipio, father of Scipio Africanus, had the command of the Romans in this battle.

‡ The Trebia rises in the Apennine mountains, and running Northward, unites itself to the Po, near Placentia, or Placenza, in the territory of Parma. The consul Sempronius commanded the Romans in this engagement.

§ Thrasymenus, Thrasimene, or the lake of Perugia, was in Etruria, a district North of Rome. The consul Flaminius had the command of the Roman army in this battle.

|| Cannæ was a village of Apulia**, about four miles from the mouth of the river Aufidus, now called Ofanto, which runs into the

* See Exercises on the Globes, art. Eridanus.

** See Chron. and Biog. Exerc.

most memorable of his victories, and most fatal to his enemies. Being, at length, recalled to defend his country, he was there defeated by Scipio, at the battle of Zama*. Soon after this overthrow, he sought an asylum with Prusias, King of Bythinia, who, desirous to gratify the Romans, designed to betray him into their hands; to avoid which disgrace, Hannibal poisoned himself, in the 70th year of his age; enjoying at his death the reputation of having been one of the greatest commanders the world had produced; a testimony confirmed to our time by the unanimous voice of posterity.

Hannibal undertook this arduous expedition about 217 years B. C. and the distance from New Carthage to the plains of Italy is computed at a thousand miles. How many inches are in the space mentioned in Hannibal's march? *Ans.* 63,360,000.

No. 439. BATTLE OF CUNAXA, OR CYNAXA.—The battle of Cunaxa, a place situated about 25 leagues N. W. of Babylon, is highly distinguished in ancient history. It was fought about 401 years B. C. between young Cyrus and his brother Artaxerxes. The latter having succeeded to the Persian throne on the death of Darius Nothus his father, the former, aided by some

gulf of Manfredonia, part of the gulf of Venice, in the lat. of 41° ½ North †. Varro and Æmilius commanded the Romans in this desperate conflict. Hannibal, having occasion to cross a brook called Vergellus, made a bridge of the dead bodies of the Romans, to facilitate his passage. The water of the Aufidus is said to have been bloody some time after the battle of Cannæ ‡. Our young readers are recommended to consult Cellarius's § “Geographia Antiqua,” a valuable school-atlas, published by Rivington, in St. Paul's Church-Yard. In *Italia Antiqua* they will find Ticinus, Trebia, Thrasymenus, Cannæ, and Aufidus.

* A town of Numidia, in Africa, about 300 miles from Carthage and Tunis.

† See the folio Atlas Guthrie's System of Geography.

‡ See Chron. and Biog. Exer. art. Bleinheim.

§ This celebrated geographer was a native of Smalealde, a little town in Franconia, Germany, where he was born in 1638, and died in 1707.

Grecian troops, attempting to dethrone him, was slain in this engagement; which, however, owes almost the whole of its celebrity to the retreat of the 10,000 Greeks that immediately succeeded it, and which is one of the most memorable events in history. Those able and intrepid warriors, hopeless of succour, bereft of their principal commanders, destitute of allies, provisions, money, horses, and archers, with, in fine, no resource but the prudence and valour which love of LIBERTY, and impatience to be restored to their native country, inspired, traversed five or six hundred leagues intersected by vast rivers, and obstructed by innumerable defiles. Yet they proceeded through various fierce and barbarous nations, surmounted all the obstacles and dangers that arose at every step, and, in a word, accomplished their very arduous enterprize, after repeated triumphs over toils, necessities, fraud, and force. This retreat is esteemed the boldest and best conducted exploit on record. It is minutely narrated by the admired historian Xenophon, whose melody of periods, and elegance of diction, obtained for him the appellation of the *Attic Bee*. He was on this occasion not only a spectator of the facts he relates, but the prime mover and animating spirit of the whole glorious expedition. This memorable retreat is delineated by Thomson in the following glowing and energetic lines :

Thro' the continent ten thousand Greeks
 Urg'd a retreat, whose glory not the prime
 Of victories can reach. Deserts, in vain,
 Oppos'd their course, and hostile lands, unknown,
 And deep rapacious floods, dire-bank'd with death,
 And mountains, in whose jaws destruction grin'd,
 Hunger and toil, Armenian * snows and storms,
 And circling myriads still of barbarous foes.
 Greece in their view, and glory yet untouch'd,
 Their steady column pierc'd the scattering herds
 Which a whole empire pour'd, and held its way
 Triumphant, by the sage-exalted Chief

* Armenia was a country of Asia, between the Caspian and Black seas.

Fir'd and sustain'd. Oh! light and force of mind
 Almost almighty, in severe extremes!
 The sea, at last, from Colchian * mountains seen,
 Kind-hearted transport round their captains threw
 The foldiers' fond embrace: o'erflowed their eyes
 With tender floods, and loos'd the general voice
 To cries refounding loud—The sea! the sea!

THOMSON'S LIBERTY.

The distance from Cunaxa, the place of engagement, to Cotyora, near Cerasus and Trapezond; on the coast of the Black Sea, where the ten thousand embarked, is generally supposed to be about 600 leagues; how many inches and barley-corns are in that space? *Ans.* 114,048,000 inches; 342,144,000 barley-corns.

No. 440. CIRCUMFERENCE OF THE EARTH.—It is an old and familiar adage, that patience and perseverance overcome the greatest difficulties. The most laborious works, says Dr. Johnson, are performed, not by strength, but perseverance. The highest and most spacious palace was raised by single stones; and he that should walk with vigour three hours a day, will pass, in seven years, a space equal to the circumference of the globe, which, at the equator, is 360 degrees, or 25,020 English Miles. How many barley-corns will encompass it; and how many miles per hour, and per day, must a person walk to accomplish the doctor's assertion? *Ans.* 4,755,801,600 barley-corns: $3\frac{1}{4}$ miles per hour, 435 remainder: and $9\frac{1}{2}$ miles per day, 435 remainder.

No. 441. SPINNING COTTON†.—Manchester, in Lancashire, says the ingenious lecturer in philosophy, Mr. Walker‡, is a well-built town; doubled in its size within the last thirty years; more than doubled in the

* Colchis was a district east of the Black sea, and North of Armenia.

† See Quest. 150. p. 79.

‡ See also Bourn's Gaz. art. Manchester, for an instance of great dexterity in the spinning of cotton.

number of its inhabitants; and enriched by the cotton manufactory beyond the power of calculation! To such perfection has the spinning of cotton by machinery arrived, that a pound of raw cotton has, for a wager, been spun into 356 hanks, each containing 840 yards*.

How many yards, feet, inches, and miles, are in the number of hanks mentioned by Mr. Walker? *Ans.* 299,040 yards; 897,120 feet; 10,765,440 inches; 169 miles, 57,600 inches (equal to 1600 yards) remaining.

No. 442. SPINNING WORSTED.—Worsted is woollen yarn, or wool spun. It obtained its name from Worsted, a town in Norfolk, remarkable for the invention or first twisting of this sort of woollen yarn or thread, of which crapes, bombazeens, and stuffs of various kinds, are fabricated; stockings also have been long made of worsted. “Worsted-stocking knave” was a term of contempt in Shakspeare’s time†. Mr. Gates, of Spalding, Lincolnshire, in a series of letters to Lord Romney, has communicated an account of the amazing efforts of Miss ANN IVES, of that town, in spinning fine woollen yarn, which she has brought to a degree of perfection hitherto unknown in this part of the world. One pound weight of English wool was spun by this young lady into 256 skeins of yarn, each 560 yards long; a surprising degree of fineness ‡!

* Tour, p. 31.

† See Mechanic, Index.

‡ It was usual in ancient times for great personages to be occupied in spinning. Lucretia with her maids was found spinning, when her husband Collatinus paid a visit to her from the camp*. The wife of king Tarquin was an excellent spinner; and a garment made by her, worn by Servius Tullius, was preserved in the temple of Fortune. Maidens were advised to follow the example of Minerva †, said to be the first who made a web; and if they desired to have her favour, learn to use the distaff, and to card and spin. Augustus Cæsar usually wore no garments but such as were made at home, by his wife, sister, or daughter. The good wife, so admirably delineated by Solomon in the Proverbs, (chap. xxxi.) “laid her hand to the spindle and held the distaff.” See Burder, ii. 224.

* See Quest. 26. p. 32.

† See Exer. on the Globes

What number of yards, barley-corns, and miles, are contained in the yarn spun by the ingenious Miss Ives? *Ans.* 143,360 yards; 15,482,880 barley-corns; 81 miles, and 86,400 barley-corns (equal to 800 yards) remaining.

No. 443. NATIONAL DEBT.—The word *fund*, in general, signifies any sum of money appropriated for a particular purpose. But when we speak of *the funds*, we usually mean the large sums of money which have been lent to government, and constitute the *national debts*; and for which the lenders, or their assignees, receive interest from revenues allotted for that purpose. The term *stock* is used in the same sense.

The practice of funding was introduced by the Venetians and Genoese in the sixteenth century, and has been adopted since by most of the nations in Europe. Princes had often borrowed money, in former times, to supply their exigencies, or to carry on their schemes, and sometimes mortgaged their territories in security: but these loans were generally extorted, and their payment was always precarious; for it depended on the good faith and success of the borrower, and never became a regular burden on posterity. The origin of funds is derived from the peculiar manners and circumstances of modern Europe. Since the invention of gunpowder, and the progress of commerce, the military occupation has become a distinct employment in the hands of mercenaries; the apparatus of war is attended with more expence; and the decision of national quarrels has often been determined, rather by the command of money than by national bravery. Ambitious princes have, therefore, borrowed money, in order to carry on their projects with more vigour. Weaker states have been induced, from motives of self-defence, to apply to the same resource; and the wealth introduced by commerce has afforded the means.

The establishment of the funds was introduced in England at the time of the Revolution; and has since been gradually enlarged, and carried to an amazing extent; the national debt of England being now (1800) estimated

mated at five hundred millions sterling*. Suppose this enormous sum counted in shillings, each measuring an inch in breadth, and all placed in contact with each other's edges, what length of line would they require? *Ans.* 157,828 miles, 497 yards, 2 feet, 4 inches: a space which is 7,708 miles more than *six times* the circumference of our earth at the equator, its widest part, exclusive of the odd yards, &c. mentioned above.

N. B. The equatorial circumference of the earth is 25,020 English miles.

LAND MEASURE.

No. 444. MARCLEY-HILL.—This hill, which is situated in Herefordshire, was removed, in 1571, by an earthquake †; it contained 26 acres. How many perches are in that quantity? *Ans.* 4,160 perches.

No. 445. FIRE OF LONDON.—The ruins of the city of London, in the great fire, A. D. 1666, of which an account is given in the 381st question, are computed to have covered 69,760 perches of ground, from the Tower by the Thames side, to the Temple church, and from the North-East gate, along the city wall, to Holborn-Bridge. How many roods and acres are in that quantity; and how many lots, each containing 1 acre, 1 rood, and 1 perch? *Ans.* 1,744 roods, 436 acres; and 347 lots $\frac{1}{16}$.

No. 446. PYRAMIDS.—A pyramid is a solid figure, whose base is a polygon, and whose sides are plain tri-

* Many political writers lament the facility with which money is raised by the funding system for the purposes of government: they aver, that ministers of state are by that means induced the more readily to engage in war, which occasions oppressive taxes, and is otherwise productive of great national evils. The American war cost this nation £100,000,000 sterling; and the sums borrowed during the late contest amount to £147,500,000. See the Terms of all the Loans, &c. The national debt at present, (1810) is about £800,000,000.

† See the particulars in the Chron. and Biog. Exer.

angles,

angles, their several points meeting in one. The pyramids of Egypt are some of the most ancient structures on our earth. They descend even from an unknown antiquity. Herodotus, who wrote 2,000 years ago, speaks with as much uncertainty about the time when they were constructed as we do at present. These majestic monuments are generally supposed to have been designed as places of sepulture for the Egyptian kings.

Instead of useful works, like Nature's, great,
 Enormous, cruel wonders, crush'd the land ;
 And round a tyrant's tomb, who none deserv'd,
 For one vile carcase perish'd countless lives.

THOMSON.

Some authors, however, contend, that they were constructed in honour of the deity. They have always been ranked among the wonders of the world. The charge of building them was immense. According to Herodotus, 100,000 workmen were employed for thirty years without intermission in preparing the materials, or constructing the work; and he adds, that 1,600 talents of silver were expended in radishes, leeks *, onions *, and garlic †, by the workmen; a sum equal, according to different calculations, to about £400,000,
 £289,379.

* The Hebrews complained in the wilderness, that manna grew insipid to them; they longed for the leeks and onions of Egypt. Travellers assure us, that in Greece and Africa raw onions are excellent; Pliny reproaches the Egyptians with swearing by the leeks and onions of their gardens; and Juvenal ridicules that superstitious people, who did not dare to eat leeks, garlic, or onions, for fear of injuring their gods.

'Tis mortal sin an onion to devour!
 Each clove of garlic is a heavenly pow'r:
 O holy nations, and O sacred clods,
 Where ev'ry fruitful orchard teems with gods?

SAY. 15.

+ Garlic has, of all our plants, the greatest strength, affords most nourishment, and supplies most spirits, to those who eat little flesh. It seems to have been a considerable article of food in ancient times.

Money

£280,379, or, at least, £220,000 sterling. Three of these magnificent structures yet remain, at the distance of some leagues from Grand Cairo, where Memphis formerly stood. The perpendicular height of the largest, called the Great Pyramid, is about 450 feet; if measured obliquely, 700; and its base covers 1,760 perches of ground. How many acres are in this quantity? *Ans.* 11 acres.

No. 447. INUNDATION.—Inundation is a sudden overflowing of the dry land by the waters of the ocean, rivers, lakes, springs, or rains. The word inundation, it is remarked by Cowley, implies less than deluge. History has recorded innumerable instances of the devastations occasioned in various parts of the globe by inundations: we shall select the two following. In 1446, a dyke broke at Dort, or Dordrecht, in Holland, by which the adjacent districts were entirely deluged, and 100,000 human beings lost their lives. A similar catastrophe befel the same country in 1570, when no less than 400,000 persons were drowned.

The dangerous banks called the Goodwin-Sands, situated opposite to the Isle of Thanet in Kent, are traditionally supposed to have been formerly part of the domains of the potent and imperious Goodwin, or Godwin, Earl of Kent, father of King Harold. These sands, which

Honey new-press'd, the sacred flour of wheat,
And wholesome garlic, crown'd the sav'ry meat.

POPE'S HOMER.

The ancients were happy strangers to the luxury and refinement of modern manners: They did not explore foreign regions, and plunder earth, sea, skies, of every living thing, as we do, to please a fastidious appetite and furnish a miserable repast. Their tables were not loaded with an ostentatious and heterogeneous miscellany, consisting of the beasts of the field, the fowls of heaven, and the fishes of the sea. The board, in primitive times, was usually covered with plain farinaceous food, the milk of the flocks, and the fruits of the ground. Their food was principally bread, and their beverage the crystal spring. See art. Milk, Mutton, and Bread, Index; and Chron. and Biog. Exer. art. Hector, Samson, and Heathfield.

The

which often prove fatal to sailors, run parallel with the coast between the North and South Forelands, for the space of three leagues. They were formed in the year 1100, by an inundation of the sea.

Prefs'd by the moon, mute arbiters of tides*,
 While the loud equinox its power combines,
 The sea no more its swelling surge confines,
 But o'er the shrinking land sublimely rides.

CHARLOTTE SMITH.

The quantity of land englutted was 640,000 perches: how many acres were absorbed by this disaster? *Ans.* 4,000 acres.

No. 448. GARDENING.—Gardening was probably one of the first arts that succeeded to that of building houses, and naturally attended property and individual possession. Culinary, and afterwards medicinal herbs, were the objects of every head of a family: it became convenient to have them within reach, without seeking them at random in woods, in meadows, and on mountains, as often as they were wanted. When the earth ceased to furnish spontaneously all those primitive luxuries, and culture became requisite, separate enclosures for rearing herbs grew expedient. Fruits were in the same predicament; and those most in use, or that demand attention, must have entered into and extended the domestic enclosure. Thus we acquired kitchen-gardens, orchards, and vineyards: no doubt, the prototype of all these sorts was the garden of EDEN †.

A cottage,

The Spaniards at present eat great quantities of garlic. Mr. Townsend saw two waggons loaded with it near Carthage, which he was assured was the weekly supply for that city.

Journey, vol. iii. p. 150.

* See Exercises on the Globes, art. Moon.

† GOD ALMIGHTY first planted a garden; and indeed it is the purest of human pleasures. It is the greatest refreshment to the spirits of man; without which, buildings and palaces are but gross handi-works.

A cottage, and a slip of ground for a cabbage and a gooseberry-bush, such as we see by the side of a common, were, in all probability, the earliest seats and gardens. As settlements increased, the orchard and the vineyard followed; and the earliest princes of tribes possessed just the necessaries of a modern farmer. Matters, we may well believe, remained long in this situation; and we have reason to think that, for many centuries, the *garden* implied no more than a kitchen-garden or orchard. The garden of Alcinous, in the *Odyssey*, is the most renowned in the heroic times; yet its whole compass enclosed only four acres:

“ Four acres was th' allotted space of ground,
“ Fenc'd with a green enclosure all around.”

The trees were apples, figs, pomegranates, pears, olives, and vines*.

Previously to this, however, we have in the sacred writings † hints of a garden more luxuriantly furnished.

works †. The garden of Eden was constructed by the Almighty with a view to beauty as well as utility. Not only every plant that was good for food, but such also as were pleasant to the eye, were planted there. See Gen. ii. 8, 9.

The Spectator, whose works will be admired as long as the language in which they are written is understood, recommends strongly and elegantly the pleasure of a garden; and Dr. Knox, a writer of very considerable fame, has an excellent essay on the same pleasing subject. The patron of refined pleasure, the elegant Epicurus, fixed the seat of his enjoyment in a garden. He was of opinion, that a tranquil spot, furnished with the united sweets of art and nature, was the best adapted to delicate repose. And even the severer philosophers of antiquity were wont to discourse in the shade of a spreading tree, in some cultivated plantation. Dioclesian, in his retirement, found more felicity from cultivating his little garden, than he had formerly enjoyed in a palace. See Chron. and Biog. Exer. May 1, 304; and Quest. 561.

* The garden of Alcinous was in Phæacia, afterwards Corcyra, now Corfu, on the coast of Turkey in Europe. He was king of the island, but it is chiefly by his garden that he has immortalized his memory. Alcinous, however, was a good prince; and he received Ulysses with much civility, when a storm had cast him on his coast.

† See the Song of Solomon.

Gardening, in the perfection to which it has been lately brought in Britain, is entitled to a place of considerable rank among the liberal arts. It is as superior to landscape painting as a reality to a representation; it is an exertion of fancy; a subject for taste; and being released now from the restraint of regularity, and enlarged beyond the purposes of domestic convenience, the most beautiful, the most simple, the most noble scenes of nature, are all within its province*. No pleasure derived from art has been so universal as that taken in gardens. This, in the first place, was owing to the union of simple gratifications that they afforded; not fewer than four of the senses, the taste, smell, sight, and feeling, being most agreeably affected by horticulture †.

The most magnificent and splendid gardens in England are those of STOW, in Buckinghamshire, which were laid out by the late Lord Viscount Cobham, and are now possessed by the Marquis of Buckingham, his nephew. These delightful grounds are said to exhibit the science of gardening in its greatest perfection; they have often been called a terrestrial paradise. The following lines were an effusion emitted on seeing them:

It puzzles much the sage's brains,
Where EDEN flood of yore;
Some place it in Arabia's plains,
Some say it is no more ‡.

But

* Wheatley's Obs. on Mod. Gard.

† Dr. Aikin's Letters to his Son.

‡ Many conjectures have been formed by the learned concerning the garden of EDEN, but neither of them is entirely satisfactory: the most rational account seems to be that which places it in a peninsula, formed by the main river of Eden on the East side of it, below the confluence of the lesser rivers, which emptied themselves into it, about 27 degrees of N. lat. now swallowed up by the Persian Gulf; an event which, it is imagined, may have happened at the universal deluge.

Then shall this mount
Of Paradise by might of waves be mov'd
Out of his place, push'd by the horned flood.

MILTON.

Calmet

But COBHAM can those tales confute,
 As all the curious know:
 For he has prov'd beyond dispute,
 That Paradise is STOW.

The magnificent boundary, round the whole circuit of Stow gardens, comprehends, according to Mr. Wheatley, a space of nearly 400 acres. How many perches are in that quantity; and into how many lots, each containing 39 perches, can the said number of perches be divided? *Ans.* 64,000 perches; 1,641 lots $\frac{1}{39}$.

No. 449. UNITED STATES OF AMERICA.—Great part of North America was colonized by British subjects, and, till the late disastrous American War, formed part of the British empire. The sensations of the first colonists, who, to avoid civil and religious tyranny, fled from the cultivated plains of England, the comforts of civilized life, and the stronger attachment of kindred and habits, to take refuge in the woods and marshes of America, are admirably expressed by the late respectable Mr. Day*, in the subsequent nervous lines:

The favour'd clime, the soft domestic air,
 And wealth and ease, were all below their care;
 Since there an hated TYRANT met their eyes,
 And blasted every blessing of the skies.
 For not the winding stream, or painted vale,
 The sweets of summer, or the vernal gale,
 Were form'd to fetter down the noble soul
 Beneath the magic of their soft controul.
 Wherever Nature bids her treasures rise,
 Or circling planets rush along the skies,

Calmet is of opinion, that the country of Eden extended into Armenia, and includes the sources of the Euphrates, Tigris, Phasis, and Araxes†. The country of Eden or Aden is mentioned in several places of scripture. See Isaiah li. 3. 2 Kings xix. 12. Ezekiel xxvii. 23. xxviii. 13.

* See Chron. and Biog. Exer.

† Diſt. of the Bible. See Chron. and Biog. Exer. art. Calmet and Harmar.

Or ocean rolls his ever-ebbing wave,
 Has fate ordain'd a refuge for the BRAVE*,
 Who claim from Heaven (and Heaven allows the claim)
 To live with FREEDOM, or to die with FAME;
 And find, alike contented with their doom,
 In every clime a COUNTRY or a TOMB †.

The brave descendants of those illustrious "SONS OF LIBERTY ‡," finding, as they conceived, their rights repeatedly invaded by several odious acts of the British parliament, at length took arms in 1775; and, after a glorious contest with the mother-country of nearly eight years continuance, terminated the war in *Freedom, Security, and Independence*, under the command of the heroic GENERAL WASHINGTON §. The thirteen || provinces which had thus resolutely united, and strenuously fought, to rescue themselves and their posterity from what they deemed oppression and tyranny, are now known by the style of the UNITED STATES OF AMERICA; a title which all nations have admitted, and which various defeats and disasters at length compelled even Great-Britain to acknowledge in the most authentic manner.

The whole territory of the United States of America is said to contain by computation a million of square miles, in which are 640 millions of acres, and of these 51 millions are water; deducting these, what number of acres, roods, and perches of land, do the United States contain? *Ans.* 589,000,000 acres, 2,356,000,000 roods, 94,240,000,000 perches.

No. 450. ENGLAND.—England is the Southern part of the island of Great-Britain, which is itself the prin-

* Omne solum forti patria est.

OVID.

To a brave man, every soil forms his country.

† Chains are the portion of the slave;
 The virtuous will be free and brave.

GISBORNE.

‡ See Dr. Gordon's Hist. Amer. Rev. vol. i. p. 160, 167.

§ See Quest. 433. p. 243.

|| They now consist of 18 provinces. See Bourn's Gaz.

eipal

cipal of the European islands; "a precious stone set in the silver sea."

" Britain the queen of isles, our fair possession,
 " Secur'd by nature, laughs at foreign force ;
 " Her ships her bulwark *, and the sea her dyke,
 " Sees plenty in her lap, and braves the world."

Such noble warlike steeds, such herds of kine,
 So sleek, so vast; such spacious flocks of sheep,
 What other paradise adorn but thine,
 Britannia ?

————— To these thy naval streams,
 Thy frequent towns superb of busy trade,
 And ports magnific add, and stately ships
 Innumeros.

DYER.

But what should endear our country still more to us, as, the consideration of its having been long the residence of a greater degree of political and religious liberty than has been enjoyed in almost any other part of Europe; that an ENGLISHMAN enjoys the blessings of personal safety and private property under the sanction of "guardian laws," which alike protect the inmate of the straw cottage †, and the possessor of the splendid throne ‡. "Assured that malice cannot assault his person, nor violence or fraud invade his property, nor tyranny encroach upon his rights, with impunity, a BRITON walks with a firm step and erect countenance in the midst of his fellow-citizens, conscious that he has *rights* as well as *duties*. He pursues his daily labours with cheerfulness, or prosecutes his plans of private emolument with ardour, in the confident assurance that he shall not fail to reap the fruits of his industry or ingenuity. In every undertaking, his faculties are invigorated, and his exertions animated, by the consciousness

* See Exercises on the Globes, art. Robur Caroli.

† See Equality, Index.

‡ See Revolution, An Englishman's House is his Castle, and British Monarchy, Index.

of being connected with a FREE state, all the members of which are mutually pledged for each other's security*." In fine, the British Constitution, as established at the GLORIOUS REVOLUTION, is, perhaps, as near perfection, as the frail works of man can approach †.

Political writers greatly vary in their accounts of the quantity of land in England. Dr. Grew makes the number of acres amount to upwards of 46 millions. Sir William Petty reckons but 28, others estimate them at 29 millions; and Dr. Davenant states the quantity of land in England and Wales to be 39 millions of acres. Zimmerman supposes that England contains about 42 millions of acres: how many roods and perches are in this last quantity? *Ans.* 168,000,000 roods; 6,720,000,000 perches.

No. 451. WASTE LANDS IN GREAT-BRITAIN. —By the report of the committee of agriculture, it appears, that the total amount of waste lands in our island is as follows: England 6,259,470 acres; Wales 1,620,507; and Scotland 14,218,124 acres. On the consideration of this subject, where is the man who will not exclaim, with the author of the *Political Arithmetic*, "When will the minister arise, who, amidst the profusion of the public money, will have virtue

* Dr. Enfield. See Chron. and Biog. Exer.

† That the form of civil government established in this country is not absolutely perfect, is a fact which its greatest admirers will readily allow; and what human institution is free from defect? But the proper way of appreciating the merits of the British Constitution, is by comparing the effects produced by it with the effects produced by the political institutions of other countries; and in this view it must surely be allowed to stand unrivalled. For no government in the world, in any age or country ever produced a greater degree of practical liberty, of prosperity, security, and happiness. There is no country in which life, liberty, and property are more secure. There is no country in which industry is more encouraged, or in which a man is more certain of enjoying the fruits of his own activity, sagacity, and success. The consequence of which is, that improvements of every kind, in agriculture, in arts, in manufactures, in commerce, in polite literature, in philosophy, and in morals, have been carried to a greater extent in this country than in any other †.

enough to appropriate ONE POOR MILLION to the cultivation of the waste lands of this country?"

What is the entire number of acres in the above quantity; and into how many farms, each containing 50 acres, 3 roods, and 39 perches, might they be divided?
Ans. 22,107,101 acres; 433,525 farms $\frac{4}{11}\frac{6}{11}\frac{3}{11}$.

DRY MEASURE.

No. 452. WHEAT.—Wheat is the grain of which bread is chiefly made, and the farmer's pride: the wheat-sheaf is the emblem of plenty; and the wheaten garland was the ancient decoration of CERES, the goddess of corn and of harvests. See Corn, Index, and Exer. on the Globes, art. Ceres.

His task it was the wheaten loaves to lay,
 And from the banquet take the bowls away.

POPE.

In 120 quarters of wheat, how many quarts? *Ans.*
 30,720.

No. 453. PETTY THIEVERY.—Mr. Middleton, in his view of the agriculture of Middlesex, observes, that the fields near London are never free from men strolling about in pilfering pursuits by day, and committing greater crimes by night. The depredations every Sunday are astonishingly great. There are not many gardens within five miles of London, that escape being visited in a marauding way, very early on a Sunday morning; and the farmer's fields are plundered all day long of fruit, roots, pulse, and corn. Even the ears of wheat are cut from the sheaves, and carried away in the most daring manner in open day, in various ways, but mostly in bags containing about half a bushel each. It has been moderately estimated, that one million and a half of bushels of all the various sorts before mentioned are carried off annually; which, as this intelligent writer observes, if valued at so small a sum as sixpence each, will amount to £37,500. How many pints are contained in the number of bushels above stated? *Ans.* 96,000,000.

No.

No. 454. BEANS.—Of this vegetable there are several varieties. The principal sorts that are cultivated in our English gardens are, says Miller, the Mazagan, the small Lisbon, the Spanish, the Tokay *, the Sandwich, and the Windsor beans. The Mazagan bean was brought from a place of the same name North of Morocco, on the coast of Africa; and is, he adds, by far the best sort to plant for an early crop. Beans in blossom emit a most exquisite odour, of which Thomson speaks in his rapturous language :

Long let us walk
Where the breeze blows from yon extended field
Of blossom'd beans. Arabia † cannot boast
A fuller gale of joy, than, liberal, thence
Breathes thro' the sense, and takes the ravish'd soul.

In 96,000,000 pints of beans, how many bushels?
Ans. 1,500,000.

No. 455. CORN.—This word denotes either a genus of plants which produce a grain in an ear fit for bread, the ordinary food of man; or the grain, or seed, of that plant, separated from the spica, or ear. In the commerce of grain it generally means wheat; but the farmers rank among the number of corns several other grains, as rye, barley, &c. Concerning the discovery and culture of corn, authors are much divided. The common opinion is, that in the first ages men lived on the spontaneous fruits of the earth, as acorns, &c. having neither the use of corn, nor the art of preparing or making it eatable. CERES has the credit of being the first that indicated the use of corn, on which account she was placed among the gods:

* See Tokay, Index.

† A country in the South-West part of Asia, famous for frankincense, cassia, myrrh, and other aromatic plants :

Sabean ‡ odours from the spicy shore
Of Araby the blest.

MILTON.

‡ Saba was formerly one of the chief towns in Arabia. The inhabitants are called Sabæi by Virgil, and other ancient authors.

and *Ceres* is metaphorically called *bread and corn*, as the word *Bacchus* is sometimes used to signify *wine*.

Bacchus* and soft'ring Ceres, pow'rs divine,
Who gave us corn for mast†, for water wine.

DRYDEN'S VIRGIL.

The Athenians pretend, that it was among them that the art of using corn began; and the Cretans, Sicilians, and Egyptians, lay claim to the same. Some think that the title of the Sicilians is best supported, that being the country of *Ceres*; others, however, maintain that it was in Egypt that the art of cultivating corn originated. And it appears, both from sacred and profane history, that Egypt was anciently the most fertile of all other countries in corn; furnishing with it a considerable part of the people subject to the Roman Empire, and was therefore called the *dry nurse of Rome and Italy*. The process attending the cultivation of corn is well described in the following lines:

The husbandman
Pursues his cares; his plough divides the glebe;
The seed is sown; rough rattle o'er the clods
The harrow's teeth; quick weeds his hoe subdues;
The sickle labours, and the slow team strains,
Till grateful harvest-home rewards his toils.

DYER,

It has been justly remarked, that agriculture is the art of free nations, and that it can never flourish under the fetters of despotism. Agriculture has been aptly styled the master sinew of every great state; the perennial fountain of wealth. Rural labours are equally conducive to health of body and of mind. The mechanic occupations hold only a secondary rank; the culture of the fields constitutes the natural and sound employment of man. Agriculture, says Dr. Robertson, clothes our land with grass for cattle, and with the herb for the use of man. She fills our houses with plenty, our hearts with gladness, and puts into our hands the staff of life †. The ancient republics

* See Bacchus and Ceres in the Exer. on the Globes.

† Mast is the fruit of the oak and beech.

‡ View of the Agriculture of Perthshire,

afford us several instances of generals and statesmen having exchanged their boisterous employments in war and politics, for the more peaceable ones of the fields, and the cultivation of the ground; thus adding to the culture of philosophy that of rural economy, and rendering themselves doubly serviceable to their country.

In ancient times, the sacred plough employ'd
 The kings and awful fathers of mankind:
 And some, with whom compar'd your insect-tribes
 Are but the beings of a summer's day,
 Have held the scale of empire, rul'd the storm
 Of mighty war; then with unwearied hand,
 Disdaining little delicacies, seiz'd
 The plough, and greatly independent liv'd *.

THOMSON.

The arable lands sown with wheat in England produce, it is computed, 34,000,000 bushels of this valuable grain annually; how many quarters, weys, and lafts, are in that quantity? *Ans.* 4,250,000-quarters; 850,000 weys; 425,000 lafts.

No. 456. BARLEY.—The principal use of this well-known species of grain among us, is for the making of

* CINCINNATUS was taken from the plough, to be advanced to the dignity of consul*; in which office he restored public tranquillity, and then returned to his rural employments. Being called forth a second time to be dictator †, he conquered the enemies of Rome, and, refusing all rewards, retired again to his farm, after he had been dictator only sixteen days. The same circumstance appeared once more in the 80th year of his age. He died 376 years before Christ.

The Americans soon after the conclusion of the war with Great-Britain, in 1783, established a society called, after the Roman dictator, "The order of Cincinnatus, or the Cincinnati." It was intended to perpetuate the memory of the revolution, the friendship of the officers, and the union of the states; and also to raise a fund for the relief of the poor widows and orphans whose husbands and fathers had fallen during the war. The members were to meet annually on the 4th of July. See Chron. and Biog. Exer. July 4, 1776.

* See Horfe, Index.

† See Chron. and Biog. Exer. art. July.

beer; in order to which it is first malted. In Scotland, barley is a common ingredient in broths; and the consumption of it for that purpose is very considerable; *barley-brub* being a dish as frequent there as that of *soup* in France. Pearl-barley is barley freed from the husk by a mill. Barley-water is a decoction of this last, reputed soft and lubricating, of frequent use in physic, as a beverage in many disorders: and is recommended, with nitre, by some authors of reputation, in slow fevers.

The quantity of barley produced in England is supposed to be much greater than that of wheat. The barley and wheat of the isle of Thanet in Kent, on account of their cleanliness and weight, generally bear a superior price in the London market. It is not known with certainty whence we obtained barley and oats; but it is certain they are not indigenous to our climate*. In 49,876,543 bushels of this grain, how many pints, and how many portions, each containing 10 bushels, 1 pint? *Ans.* 3,192,098,752 pints; 4,979,873 portions $\frac{1}{10}$.

No. 457. MALT.—Malt denotes barley cured, or prepared for making a potable liquor, under the denomination of beer, or ale. Barley is converted into malt by being steeped in water and fermented, and then dried on a kiln; which is a sort of stove so constructed as to admit heat for the purpose of drying any thing.

It is conjectured, that twenty-three millions of bushels of barley are annually converted into malt in England†. How many carts may be loaded from that quantity, each carrying 5 quarters, 1 bushel, 2 pecks? *Ans.* 554,216 $\frac{1}{10}$.

No. 458. COAL.—Coal is a common fossil fuel. Mr. Brand, in his history of Newcastle-upon-Tyne, observes, that though some writers have not scrupled to affirm that coal was unknown to the ancient Britons, yet others have contended for the contrary by almost irresist-

* See Quest. 561.

† The average quantity of barley produced in England annually, is seven millions of quarters, or 66,000,000 bushels.

ible arguments. And the facts and testimonies adduced by Mr. Brand afford much reason to conclude, that coal, though at first unnoticed in Britain by the Romans, was afterwards in actual use among them. The first public mention of coal that we meet with is in the year 1239, when King Henry III. confirmed the charter granted by John his father to the inhabitants of Newcastle, to dig coals in the common soil without the walls, and to convert them to their own profit, in aid of their *fee-farm* rent of £100 per annum.

Newcastle* is the largest and most populous town of Northumberland. The Tyne is here a fine and deep river. Mr. Pennant †, in his Tour to Scotland, says, there are about twenty-four considerable collieries, which are situated at different distances, from five to eighteen miles from the river. The colliers are thus described by Mrs. Piozzi: While, says this celebrated lady, the possessor of a Northern coal-mine riots in that variety of adulation which talents deserve, and riches contrive to obtain, those who labour in it are often *natives* of the dismal region, where many have been known to be born, and work, and die, without *ever* having seen the sun, or other light than such as a candle can bestow ‡. Homer's description of the fabulous Cimmerians§ answers very well to the inhabitants of these doleful districts:

The gloomy race, in subterraneous cells,
Among surrounding shades and darkness dwells;
Hid in th' unwholesome covert of the night,
They shun th' approaches of the cheerful light:
The sun ne'er visits their obscure retreats,
Nor when he runs his course, nor when he sets.
Unhappy mortals!

ADDISON.

The coal trade is generally allowed to be the best nursery for British seamen. Sailors bred up in that trade can

* See Chron. and Biog. Exer.

† See Chron. and Biog. Exer.

‡ Observations in a Journey through France, &c. vol. i. p. 168.

§ Odyssey, l. 10.

hardly be equalled for skill, spirit, and hardiness in their profession. An admired modern poet has noticed this sturdy race in the following lines :

Ne'er from the cap of luxury and ease
 Shall spring the hardy warrior of the seas.—
 A toilsome youth the mariner must form,
 Nurs'd on the wave, and cradled in the storm.
 This school our coasts supply—the unwrought ore
 Wasted from port to port around our shore,
 The Northern mines that fable stores unfold
 To chafe from blazing hearths froze* winter's cold;
 These nurseries have train'd the daring crew
 Through storms and war our glory to pursue :
 These have our leaders train'd, and naval fame
 Reads in their rolls her COOK's † immortal name.

PYE'S NAUTICA, or NAVAL DOMINION.

The duty on coals is an important branch of revenue, amounting, it is affirmed, to half a million sterling per annum. The Duke of Richmond was entitled to a duty on all coals sent coastways, amounting generally to £15,000 a year; but his Grace has recently sold this right to government †.

The quantity of coals annually imported into London, deduced from an estimate of 10 years, viz. from 1770 to 1779, is 658,853 chaldrons. How many bushels and pecks are in that quantity? *Ans.* 23,718,708 bushels, 94,874,832 pecks.

No. 459. NUTS.—Nut, among Botanists, denotes a *pericarpium* of an extraordinary hardness; which contains a softer edible nucleus or kernel. Of these we have divers kinds; as small nuts, filberds, chestnuts, walnuts,

* Frore, frozen. An obsolete word, not used since the days of Milton.

Dr. JOHNSON.

† See Chron. and Biog. Exer. and Arith. Quest. Index.

‡ In the distribution paper of the expenditure of the year 1801, which was laid before the House of Commons in February 1802, there is a charge of £144,612 2s. paid to the duke of Richmond for one third of his Grace's annuity granted in lieu of 12d. a chaldron on coals,

&c.

&c. The hazel nut is fit for gathering in the month of September.

Ye virgins, come! for you their latest song
 The woodlands raise; the clustring nuts for you
 The lover finds amid the secret shade;
 And, where they burnish on the topmost bough,
 With active vigour crushes down the tree,
 Or shakes them ripe from the resigning bush.

THOMSON.

AMIENS*, a handsome town in the department of Somme, and late province of Picardy in France, was taken by the Spaniards in 1597 by the following stratagem: soldiers, disguised like peasants, conducted a cart loaded with nuts, and let them fall just as the gate was opened; and while the guard was busy in gathering them up, the Spaniards entered, and became masters of the place. It was retaken by Henry IV. who was assassinated at Paris in 1610†.

Suppose the above-mentioned cart to have been loaded with 14 sacks of nuts, each sack containing 3 bushels, 3 pecks, 1 gallon, 1 pottle, 1 quart, and 1 pint; how many pints are contained in the whole? *Ans.* 3570 pints.

No. 460. WHIRLWIND.—There are several sorts of whirlwinds, distinguished by their peculiar names. That which is most properly called a vortex, or whirlwind, is an impetuous wind, turning rapidly every way, and sweeping all around the place. It frequently descends from on high; and this kind is common in the Eastern ocean, chiefly about Siam, China, &c. which renders the navigation in those parts exceedingly dangerous. A tempestuous easterly wind, or hurricane, of this last kind, called Euroclydon, or, in modern language, a Levanter, tossed the ship in which the apostle Paul and his fellow-prisoners were sailing from Cesarea to Rome‡, backward

* See Quest. 89, p. 46.

† See Chron. and Biog. Exer.

‡ See Acts xxvii. 14. and the Scripture Maps.

and forward in the Adriatic sea*, prior to their shipwreck on the shore of Melita, now called Malta.

In the month of May 1782, a most furious whirlwind, accompanied by heavy rains, almost ruined FORMOSA †, an island near the coast of China, in Asia. The courts of judicature, public granaries, warehouses, shops of tradesmen, and private dwellings, were levelled with the ground, and appeared little more than a heap of ruins. Among the shipping the havock was equally dreadful. There were seventeen men of war in the harbour when the tempest began; of these, two were sunk, two were dashed to pieces, and ten were so dreadfully shattered as to be rendered totally unfit for service. The smaller ships, which were about 100 in number, shared nearly the same fate; for more than eighty were sunk, of which five had just taken their lading on board, which amounted to a hundred thousand bushels of rice: all this was totally lost.

How many lots, each containing 3 bushels, 2 pecks, 1 gallon, 1 pottle, 1 quart, and 1 pint, does the above quantity contain? *Ans.* 26,778 lots $\frac{38}{335}$.

WINE MEASURE.

Wine is defined a brisk, agreeable, spirituous, and cordial liquor, extracted from vegetable bodies, and fermented. All sorts of vegetables, fruits, seeds, roots, &c. may be made to afford it; as grapes, pulse, peas, turnips, radishes, and even grass. The word wine is, however, appropriated, in a more particular manner, to the fermented juice of the grape. Of this various sorts are made in France, Germany, Spain, Portugal, Hungary, and Italy. Concerning the acquaintance which our progenitors had with wine, it has been conjectured, that the

* Adria, or the Adriatic sea, in ancient geography, means all that part of the Mediterranean which lay South of Italy; and that which is now the Gulf of Venice, was at that period, called the Sinus Adriaticus; a distinction seldom attended to by modern writers on geography, or the delineators of modern maps.

† See Pfsalmanazar, Jones's New Bing. Dict.

Phœnicians might possibly have introduced a small quantity of it; but this liquor was very little known in our island before it was conquered by the Romans. Wine is of extensive utility, not only as a beverage, but as a medicine; and several eminent physicians recommend it as an excellent cordial, peculiarly salutary in fevers, &c.

No. 461. WINE OF LEBANON.—Hosea speaks of this wine as very fragrant*, chap. xiv. ver. 7. The wines of those sides of Mount Lebanon† which were well situated for the sun, were in great estimation; that of Byblos in particular is much commended: and even to this day the wines of Lebanon are much drunk. Travellers, particularly Rauwolf, Le Bruyn, and De la Roque, extol the wine which they drank at Canobine, a celebrated monastery on Mount Lebanon, as superior to any they had ever tasted—even that of Crete or Cyprus. HARMER iv. 136.

In 2 hogheads of this wine, how many gallons, quarts, and pints? *Ans.* 126 gallons, 504 quarts, 1,008 pints.

No. 462. WINE OF HELBON.—This excellent wine was well known to the ancients. It was made at Damascus; and the Persians had planted vineyards there on purpose, as the kings of that empire usually drank it. Ezekiel, chap. xxvii. enumerates this wine among the articles of merchandize which were sold at the fairs of Tyre‡.

In

* Some commentators, however, are of opinion, that *wine of Lebanon* may signify a sweet-scented wine, that is, wine in which perfumes are mixed to make it more palatable, and of a better flavour. It is certain, that odoriferous and medicated wines were not unknown to the Hebrews. See Cant. viii. 2. The wines of Palestine being rather heady, they used occasionally to qualify them with water, that they might be drunk without any inconvenience. See Proverbs ix. 2, 5.

† Lebanon separates Syria from Palestine. De la Roque thinks it is higher than the Alps or the Pyrenees. It is sometimes called Libanus. See the note to Manna. See also 1 Kings vii. 2. and the Scripture Maps.

‡ Tyre was a famous sea-port of Phœnicia, originally built by a colony of Sidonians; and therefore Isaiah, chap. xxiii. ver.

In 1,008 pints of Helbon wine, how many hogheads?
Ans. 2 hogheads,

No. 463. MUSCADINE, or MUSCADEL*.—A rich French wine, chiefly produced in the late provinces of Provence and Languedoc. The word, as well as the liquor, is French: some derive its original from *must*, the

22. calls it the *daughter of Zidon*. The prosperity of this renowned city was amazingly great, but its vices were as great. Tyre was puffed up with the glory of possessing the empire of the sea; of being the seat of universal commerce; of giving birth to distant colonies; of having within her walls merchants whose credit, riches, and splendor, equalled them to the princes of the earth. Her merchants traded in the persons of men; but, alas! such is the uncertainty of worldly grandeur, Tyre was at length taken by Alexander the Great; 8,000 of its inhabitants were slain, 2,000 crucified, and 30,000 sold for slaves!!!

To be convinced of the fluctuation and instability of commercial greatness, we have only to take a retrospective glance at the history of Tyre, Carthage, Athens, Syracuse, Agrigentum, Rhodes, Venice, Florence, Lisbon, the Hans-Towns, Antwerp, and Holland. We shall there find, that the prosperity and the wealth of each declined when a rival arose. Their great opulence, on which alone depended their existence, excited other nations to their conquest; while the consequent luxury and dissipation of the inhabitants, by enfeebling their characters, hastened and facilitated their final destruction.

Phœnicia was a province of Syria, along the Eastern coast of the Mediterranean sea. The Phœnicians were much celebrated for their knowledge of navigation, commerce, and astronomy. Ancient writers, both sacred and profane, make frequent mention of their works in gold, embroidery, &c. in a word, whatever regarded magnificence and luxury. A Tyrian artist made the curious vessels for Solomon's magnificent temple at Jerusalem*; and Homer gives the people of Tyre the character of excellent artists in several kinds of works.

There lay the vestures, of no vulgar art,
 Sidonian maids embroider'd ev'ry part.

POPE'S HOMER.

Rich with Tyrian dye resplendent glow'd.

Ibid.

- He quaff'd off the muscadel,
 And threw the fops all in the sexton's face.

SHAKESPEARE.

• See 2 Chron. chap. vi.

wine being supposed to have a little of the smell of that perfume; others from *musca**, a *fly*, because the flies are extremely fond of its grapes; as the Latins had their *vinum apinum*, so called on account of the partiality of the bees† for the grapes of which it was made. In a hog-head of muscadine how many dozen of quart bottles? *Ans.* 21 dozen.

No. 464. PALM WINE.—This liquor is extracted from the trunk of the tree by incision ‡. The tree was very common in Palestine. The Hebrews call it Tamar and the Greeks Phœnix §. The finest grew along the banks of the Jordan, and in the plain of Jericho; hence this city is denominated the city of Palm-trees, Deut. xxxiv. 3. Miller enumerates twenty-one species of the palm-tree, of which the most remarkable is the greater palm or date ¶ tree. The dwarf palm grows in Spain, Portugal, and Italy. The oily palm is a native of Guinea and the Cape Verd islands, but has been transplanted to Jamaica and Barbadoes. It is remarkably straight and smooth, and grows as high as the mainmast of a ship. Its leaves retain their verdure the whole year. The branches of the palm tree were anciently worn in token of victory; it therefore implies superiority.

Get the start of the majestic world,
And bear the palm alone.

SHAKESPEARE.

When our Saviour made his triumphant entry into Jerusalem, a great multitude of people, who were come to the feast of the passover ¶, took branches of palm-trees,

* See Exercises on the Globes.

† See Exercises on the Globes and Arith. Quest.

‡ See Montifor's Account of Bulam, a district about 300 miles South of Cape Verd in Africa.

§ See Exer. on the Globes, 4th edit.

¶ See Date, Index.

¶ See Chron. and Biog. Exer. 4th edit.

and went forth to meet him, with acclamations and hosannas*. In memory of this circumstance it is usual, in popish countries, to carry palms on the Sunday before Easter; hence called Palm-Sunday. Conquerors were not only accustomed to carry palm-trees in their hands; but the Romans, moreover, in their triumphs, sometimes wore *toga palmata*, in which the figures of the palm-trees were interwoven. See Cloth Measure, p. 232, and Rev. vii. 9.

In three hogheads of palm wine how many dozen of pint bottles? *Ans.* 126 dozen.

No. 465. CONSTANTIA WINE.—This wine takes its name from the beautiful little village of Constantia, which with its vine plantations, and the Table Mountain, are considered as the principal objects of curiosity at the Cape of Good Hope†. There are at this place two distinct and separate plantations of vines, each of a different colour and quality, though both are called Constantia wines. The first farm, called Great Constantia, produces the red wine of that name; and at Lesser Constantia, in its vicinity, the white is made. The farm, which alone produces this richly-flavoured wine, belongs to a Dutchman, Mynheer Pluter, and has been long in his family. The grape from which it is extracted is a species of the Muscadel, extremely rich, sweet, and luscious, and the wine is sweet, heavy, and luscious, not fit to be drank in any great quantity, but chiefly suited to a dessert; as a couple of glasses are quite as much as one would desire

* See John xii. 12, 13. Hosanna is a Hebrew word which signifies, Save, I beseech you. It is a form of blessing, or wishing well. The people's meaning was, Lord preserve this son of David; heap favours and blessings on him.

CALMET'S Dict.

† The Cape of Good Hope, at the southern extremity of Africa, was taken by the English from the Dutch in 1795, but was relinquished again at the peace of Amiens in 1802. It was again captured by his Majesty's forces Jan. 10, 1806, commanded by Sir David Baird and Sir Home Popham. The way to the East-Indies by this Cape was discovered in 1497, by Vasco de Gama, a celebrated Portuguese navigator ‡. Previously to this æra the commercial intercourse between Europe and Asia was carried on by means of the Mediterranean Sea, the isthmus of Suez, the Red Sea, &c.

‡ See the particulars in the Chron. and Hist. Exerc. 4th edit.

to drink at a time. It is even here excessively dear and difficult to be procured, and must be often bespoke a considerable time. The captains of vessels touching at the Cape who have wished to procure a quantity of it, have been frequently obliged to contract for it a year or two before the wine was made.

The quantity of wine made at the farms of Constantia, on an average, is about seventy-five leagers a year, each leager containing one hundred and fifty gallons of our measure*. How many hogheads are in that quantity? *Ans.* 178 hogheads, 36 gallons.

No. 466. HISTORY OF TAVERNS.—A tavern is a house where wine is sold and drinkers are entertained.

Inquire at London, 'mong the taverns there;
For there they say he daily doth frequent,
With unrestrained loose companions.

SHAKSPEARE.

The history of taverns in this country may be traced back to the time of Henry IV. for so ancient is that of the BOAR'S HEAD †, in Eastcheap, Cannon-Street, the rendezvous of Prince Henry and his lewd companions, as we learn from Shakspeare ‡. Of little less antiquity is the WHITE HART, without Bishopsgate, which now bears in the front of it the date of its erection, 1480.

To the lover of temperance, and to the friend of refinement in mercantile manners, it must be a source of pleasurable reflexion to be informed, that, with respect to the frequenting of taverns, and the combining of drinking with the transactions of business, the merchants and tradesmen of the metropolis are extremely improved. At the Restoration §, says Sir John Hawkins ||, in his *Life of Dr.*

* See Percival's Account of the Cape of Good Hope.

† The site of this tavern is now covered with modern houses; but in the front of one is still preserved the memory of the sign, the *Boar's Head*, cut in stone. Pennant's London, p. 344, edit 3.

‡ See the play of Henry IV.

§ See Chron. and Biog. Exer. May 29, 1660, and Sept. 3, 1651. Also, Robur Caroli, Exercises on the Globe.

|| Sir John Hawkins, Knt. was born in London in 1719. This worthy gentleman for many years distinguished himself as chairman
of

Dr. Johnson, the Cavaliers* and other adherents to the royal party, for joy of that event, were for a time incessantly drunk. When the frenzy of the times was abated, taverns became places for the transaction of almost all manner of business, especially those about the Exchange, in the vicinity of which the number was not so few as twenty. At the Crown, which was one of them, it was not unusual in a morning to draw a butt of mountaint, 120 gallons, in gills †. In fact, very many gentlemen spent

of the Middlesex magistrates, and was knighted October 23, 1772. In 1776, he published "A General History of Music," in 5 vols. 4to. replete with curious information and valuable anecdote. His "Life of Dr. Samuel Johnson," likewise, whatever some snarling critics may say, abounds with literary entertainment. Sir John also republished "Walton's Angler," with Notes, and a life of the Author; and died May 21, 1789, deeply regretted as a firm and zealous friend, an affectionate husband and parent, and a sincere Christian.

* During the unhappy war which brought Charles I. to the scaffold, the adherents of that king were first called *Cavaliers*, and those of the parliament *Round-Heads*, which two names were afterwards changed into those of *Tories* † and *Whigs* †. The term Round-Head is derived from a practice which then prevailed among the friends of liberty, of cropping their hair round. Cavalier means a horseman, a knight; a gay, sprightly, military man.

Who will not follow
These cull'd and choice-drawn cavaliers to France?

SHAKESPEARE.

† See Quest. 473.

‡ Gill, derived from *Gilla*, barbarous Latin, is a measure of liquids, containing in London the fourth part of a pint; but in some of the Northern counties it is twice this quantity. It is likewise in common use in Scotland, as we learn from the writings of their celebrated bacchanalian bard, "The Ayrshire Ploughman," who also employs its diminutive gillie:

I'll toast ye in my hindmost gillie.

ROBERT CURRIE, the singularly ingenious and far-famed Scotch poet, was born near the town of Ayr; and on the 21st of July 1796, closed, at Dumfries, in the 38th year of his age, a chequered life, in which virtue and passion had been at perpetual variance. See Dr. Currie's fascinating life of this ill-fated genius, vol. i. p. 34, 226, 231. 1st edit. Dr. Currie himself died, at Sidmouth in Devonshire, in 1805. See Chron. and Biog. Exer.

§ See the Index.

more

more of their time at the tavern than at home; and they drank so much wine, that the tavern-keeper who did not retire with a fortune in a few years was a bad manager. It is, no doubt, owing to a better education bestowed on the FEMALE SEX *, that the social board is now less forsaken than formerly, by men of certain ranks in life; home has more charms; and sobriety is more respected; at least intoxication is less a habit, and less general.

How many gills are in the quantity drawn at the Crown; and how many persons, each drinking 4 gills, might have partaken of it? *Ans.* 3,840 gills; 960 persons.

No. 467. PORT-LAUREAT.—This is a well-known office in the king's household †, Sir John Hawkins, in his entertaining History of Music, observes, that there are no records which ascertain the origin of the institution in this kingdom, but many that recognize it. There was a court-poet as early as the reign of Henry III. Chaucer, on his return from abroad, assumed the title of poet-laureat; and, in the 12th year of Richard II. obtained a grant of an annual allowance of wine. James I. in 1615, granted to his laureat a yearly pension of 100 marks; and, in 1630, this stipend was augmented, by letters-patent of Charles I. to 100l. per annum, with an additional grant of one tierce of Canary Spanish wine, to be taken out of the king's store of wine yearly. How many gills are in this quantity; and supposing 29 pints added to the number, how many glasses, each holding a gill, would it allow the laureat to drink daily, that the whole might serve him a year? *Ans.* 1,344 gills: 4 glasses daily.

No. 468. PORT WINE.—This wine receives its name from being made in the districts adjacent to Oporto, or Porto, a rich, handsome, and considerable town of Portugal; and on this account all red wines that come from Spain or Portugal are usually called Port wines.

* See the prefaces to the Arith. Quest. the Exer. on the Globes, and the Chron. and Biog. Exer.

† See Chron. and Biog. Exer. 4th edit. art. Laureat.

The Portuguese wines, when old and genuine, are esteemed to be very friendly to the human constitution, and safe to drink; but it is generally supposed, that not half the quantity that is consumed under the name of Port wines, in the British dominions only, comes from Oporto. The merchants in this city have, however, very spacious wine vaults, capable of containing six or seven thousand pipes; and it is said, that twenty thousand pipes are annually exported from Oporto. How many pints are in the quantity last mentioned? *Ans.* 20,160,000 pints.

No. 469. GERMAN WINES.—There are excellent wines made in the imperial dominions; particularly on the banks of the Rhine and Moselle, two large rivers in the Western part of Germany. These wines differ from those of other countries in a peculiar lightness and detergent quality, and are said to be more sovereign in some diseases than any medicine. The Rhenish made at Hockheim *, has been styled the prince of German wines. Old, strong, Rhenish wine, is called *bock* or *bockamore*.

Made 'em stoutly overcome,
With bachrach †, *bockamore*, and mum ‡.

HUDIBRAS.

The German nobility display great magnificence in their wines; and in many houses, as Lady Wortley Montague remarks, the list of them, printed, is put under every plate at their entertainments. Mr. Wraxall has given a

* Hockheim, or Hockham, is only an inconsiderable village, not far distant from the city of Ments, on the Rhine.

† This famous wine, which is still in high repute, took its name from the town of Bacarach, in the Palatinate of the Rhine, about 20 miles South of Coblenz. It now belongs to the French empire, being comprehended in the recently-formed department of Mont Tonnerre, in which are Ments, or Mayence (its chief city), Worms, Spire, &c

Palatinate means a county, or district, wherein is the seat of a palatine, or chief officer in the court of an emperor, or king, possessing royal privileges. Cheshire is a county palatine; and there were formerly eight such counties in Ireland.

‡ See Index.

copy

copy of one of these papers, which contained thirteen different forts.*

The city of BREMEN in Lower Saxony, Germany, is, says Mr. Wrexall, noted for its old hock, which is brought from the banks of the Rhine, and deposited in the public cellars, which are wonderfully capacious, but not comparable in magnificence to some in Portugal, or to those of Constantia at the Cape of Good Hope. There is one particular room, called the Rose, where they keep wine which they state to be 170 years old, and for which they ask £1 5s. a bottle.

At HEIBELBURG, on the River Neckar; near its junction with the Rhine, Germany; there was a tun or wine-vessel constructed in 1343, which contained twenty-one pipes. Another was made, or the one now mentioned rebuilt in 1664, which held six hundred hogsheds, English measure. This was emptied, and knocked to pieces by the French in 1688. But a new and larger one was afterwards fabricated which held eight hundred hogsheds. It was formerly kept full of the best Rhenish wine, and the electors have given many entertainments on its platform: but this convivial monument of ancient hospitality is now, says Mr. Walker, but a melancholy, unfocial, solitary instance of the extinction of hospitality; it moulders in a damp vault, quite empty. It is, continues the ingenious philosophical lecturer †, nine yards long, seven in diameter, and holds 67,000 gallons, a measure; however, he adds, greatly inferior to many of the London porter-vats. See Porter, Index.

How many tuns, &c. does this famous vessel contain according to this calculation? *Ans.* 265 tuns, 1 pipe, 1 hhd. 31 gallons.

No. 470. TUN OF KONIGSTERN.—This celebrated vessel is said to be the most capacious cask in the world; holding 1,860,336 pints. The top is railed in, and affords room for twenty people to regale themselves. There are also several kinds of welcome cups, which are offered to strangers, who are invited, by a Latin inscription, to

* Memoirs, vol. ii. p. 252.

† See Walker, Index.

drink to the prosperity of the whole universe. This enormous tun was built in 1725, by Frederick Augustus king of Poland, and elector of Saxony, who, in the just-mentioned inscription, is styled "the father of his country, the Titus of his age", and the delight of mankind." The town of Konigstein was erected as a fortress by this same Augustus, on the summit of a perpendicular mountain, or rather rock, on the western side of the Elbe, accessible only in one place, and well supplied with water. Payne says, it is five, and Crutwell that it is 16 miles from Dresden in Saxony, Germany. It is used occasionally as a place of confinement for state prisoners †.

How many hogheads, pipes, and tuns, does the Konigstein cask contain? *Ans.* 3,709 hhd. ; 1,854 pipes and 1 hhd. ; 927 tuns.

No. 471. FRENCH WINES.—The wines of France are peculiarly excellent ; and though they differ very sensibly in their taste and properties, there are few constitutions, be they ever so valetudinary, to which some one or other of them is not adapted. Thomson, in his Autumn, has thus characterized some of these delicious wines :

The Claret smooth and red,
The mellow-tasted Burgundy, and, quick
As is the wit it gives, the gay Champaigne.

At Clervaux, or Clairvaux, a small town in the department of Aube, and late province of Champagne, in France, there are several enormous casks which will contain from one hundred to four hundred tuns of wine ; and the famous tun of St. Bernard ‡ will hold no less than 1,612,800 pints of this liquid. In these capacious vessels wine is sometimes kept for the space of ten years.

How many tuns does St. Bernard's tun contain? *Ans.* 800 tuns.

* See *Quest.* 87. p. 43, 44.

† See Payne's *Geo.* vol. ii. p. 175, &c. and Crutwell's *Gaz.*

‡ St. Bernard was the first abbot of Clairvaux ; he was born in 1091, and died in 1153. See his *Life* in *Moresi's Dictionary.*

No. 472. **MADERA WINE.**—This is the produce of Madeira, a beautiful and fertile island, situated in the Atlantic ocean, in about 33 degrees of North latitude, and 17 degrees of West longitude. The wines of Madeira are greatly improved by the heat of the sun, and therefore acquire a considerable augmentation of price by being conveyed across the equator previously to their arrival in England. The island of Madeira*, which belongs to Portugal, produces twenty-eight thousand pipes of wine annually, eight thousand of which are drank there, and the rest exported; principally to the West-Indies.

How many bottles, each containing three pints and a half, might be filled with the quantity of wine said to be produced yearly in the island of Madeira? *Ans.* 8,064,000 bottles.

No. 473. **SPANISH WINES.**—The principal Spanish wines are sherry, pacaretta, mountain, and tent. Sherry is a sort of *sec* or dry wine, prepared about XERES, in the diocese of Seville, Andalusia, Spain; and hence called, according to our orthography, sherris, or sherry. The wines most remarkable in Cadiz are sherry and pacaretta, both from Xeres and its vicinity. In the district of Malaga there are fourteen thousand vine-presses, chiefly employed in making the rich wines, which, if white, from the nature of the country, is called *mountain*; if red, from the colour, *vino tinto*, known to us by the name of *senz*. The wine of La Mancha† appeared to Mr. Townsend to be the best in Spain: it had, he says, the flavour of the richest Burgundy, with the strength and body of the most generous port ‡.

* This island surrendered December 24, 1807, to the BRITISH sea and land forces, in trust for the royal family of Portugal, which had just emigrated to their colony of the Brazils, in South America. See Chron. and Biog. Exer. 4th edit. Nov. 29, 1807.

† La Mancha is a province in the territory of New Castile, situated between the river Guadiana and Andalusia. It is a mountainous country; and is greatly endeared to the admirers of genuine wit and humour on account of its “*far-fam’d*” knight, the renowned Don Quixote, who is supposed to have performed his chief exploits in this district. See Chron. and Biog. Exer. art. Cervantes.

‡ Journey, vol. ii. p. 263, 390. vol. iib. p. 29.

The

The same entertaining traveller informs us, that one merchant exported 5,000 butts of wine in a year from Malaga*. Mr. Townsend calculates the butt at 135 gallons. How many gallons, quarts, and pints, are in the above quantity, and of each an equal number? *Ans.* 490,909 $\frac{1}{11}$.

No. 474. MALMSEY.—This wine was formerly the produce of Candiá, the islands in the Archipelago, and the Morea in Greece; but is now chiefly brought from Madeira, and some from Spain. It is a sweet wine, of a golden or brownish-yellow colour; and to this is applied an Italian proverb, signifying, *manna to the mouth, and balsam to the brain*. Malmsey is supposed to have received its name from Malvasia, a small island East of the Morea, a peninsula, in Turkey in Europe. The French call this wine Malvoisac. The Duke of Clarence, brother to Edward IV. is said to have been drowned in the Tower, in a butt of Malmsey. He was buried at Tewkesbury†.

MAXIMINIUS, an execrable Roman emperor, who was assassinated at Aquileia‡, A. D. 236, is said to have generally devoured 40 lbs. of meat in a day, and to have drank 18 bottles of wine in the same space of time. How many days would a butt of Malmsey have supplied that noted wine-bibber with his usual quantity, supposing each bottle to have contained a quart? *Ans.* 28 days.

No. 475. SACK.—This is a kind of sweet wine now brought chiefly from the Madeira islands, and Palma, one

* The Corsicans make plenty of admirable wines. One of these has a great resemblance to Malaga. A deal of it is annually exported to Germany and sold as such; and some of it is bought up at Leghorn and carried to England, where it passes equally well for the production of Spain.

BOSWELL'S *Account of Corsica*, 214.

† See Chron. and Biog. Exer.

‡ Aquileia, formerly one of the richest and most trading towns of all Italy, but now in a decayed state, is situated near the North end of the Gulf of Venice. In the vicinity of this place our Richard the first was shipwrecked, in returning home from the Holy Land, and was afterwards detained a prisoner in Germany till ransomed by his subjects. See Chron. and Biog. Exer.

of

of the Canaries. The first is called Madeira *sec*, the latter, which is the richer and better of the two, Canary or Palm *sec*. The name sack is a corruption of *sec*, which signifies dry; those wines being made from half-dried grapes; but wine-merchants of the present day use the word *soft* to denote the same quality. The sack of Shakspeare, is believed to have been what is now called sherry*.

If $\frac{2}{3}$ of a pipe of sack were bottled off into quarts, and the remainder into pints, how many dozen would there be of each? *Ans.* 28 of each.

No. 476. ENGLISH WINE.—Mr. Miller asserts, that he has made wine from English grapes, as good as any of the best and purest French wines, drank either in Paris or Champagne †. It is supposed, that we had formerly considerable vineyards in England, particularly in Gloucestershire ‡. And about a century after the accession of William the Norman, there was a vineyard near Pembroke, in Wales §. It has been thought probable, that the cultivation of the vine was relinquished, in consequence of our increased intercourse with France.

Notwithstanding the climate of Great-Britain has of late years been unfavourable to the production of wines; yet our good housewives contrive to make a pleasant vinous beverage from no less than *thirty* several sorts of fruits, &c. ||

Now will the corinths †, now the rasps, supply
 Delicious draughts; the quinces now, or plums,
 Or cherries, or the fair Thisbean** fruit,
 Are press'd to wines.
 Besides the orchard, ev'ry hedge and bush
 Affords assistance; ev'n afflictive birch,
 Curs'd by unletter'd, idle youth, distils
 A limpid current from her wounded bark

* See Mr. Malone's Shakspeare; first part of Henry IV.

† See Dr. Rees's New Cyclop. art. Wine.

‡ See Dr. Aikin's England Delineated.

§ Ency. Brit. art. Ale.

|| See Farley's Art of Cookery.

¶ Currants. See Index.

** The mulberry; see Pyramus and Thisbe, Lempriere's Class. Dict.

Profuse of nursing sap. When solar beams
 Parch thirsty human veins, the damask'd meads,
 Unforc'd, display ten thousand painted flow'rs
 Useful in potables. Thy little sons
 Permit to range the pastures; gladly they
 Will mow the cowslip posies, faintly sweet,
 From whence thou artificial wines shall drain
 Of icy taste, that, in mid fervours, best
 Slake craving thirst, and mitigate the day.

PHILIPS.

If a hoghead and half of cowslip wine be drawn off into bottles containing severally two gallons, one gallon, a quart, and a pint, in equal numbers, how many would there be of each sort? *Ans.* 28.

No. 477. DOMESTIC WINES.—Our domestic wines, commonly called *sweets*, or *made wines*, are chiefly made from raisins or dried grapes of Spain or Portugal. Francis Chamberlayne first made the attempt in 1635, and obtained a patent for fourteen years, in which it is alleged that his wines would keep good during several years, and even in a voyage under the very line*. The art was very successfully revived, several years ago, by Mr. Beaufoy, and the foreign wines most admirably mimicked. Such is the prodigality and luxury of the age, that the demand for many sorts exceeds in a great degree the produce of the native vineyards. We have skilful fabricators, who kindly supply our wants. It has been estimated, that half the port, and five-sixths of the white wines consumed in our capital, have been the produce of our home wine-presses. The product of the duty to the state from a single house, was in one year not less than £7,363. The genial banks of the Thames opposite to our capital, yield almost every species of white wine; and, by a wondrous magic, the late Mr. Beaufoy poured forth the materials for the Rich Frontinac, to the more elegant tables; the Madeira, the Calcavella, and the Lisbon, into every part of the kingdom.

Mr. Pennant, in his London, speaking of Mr. Beaufoy's premises, which are situated in the vicinity of Lam-

* Rymer's Fœdera.

beth and Westminster-Bridge, observes, that there was a magnificence of business that could not fail to excite the greatest admiration, whether we consider the number or size of the vessels*. One of these conservatories holds 1,859,488 gills: how many hogheads are in this quantity? *Ans.* 922 hhds. 23 gallons.

No. 478. **FALERNIAN WINE.**—The Falernian wine, so much celebrated by the ancient Roman poets, particularly Virgil and Horace, was the produce of Falernus, a fertile mountain and plain of Campania, a district of Italy in which Rome is situated. Among the Romans, the age of wines was in a manner the criterion of their goodness; and Horace, in his odes, boasts of his drinking Falernian wine, born as it were with him, or which reckoned its age from the same consuls.

Perhaps to-morrow he may change his wine,
And drink old sparkling Albant, or Setine;
Whose title, and whose age, with mould o'ergrown,
The good old cask for ever keeps unknown.

JUVENAL by BOWLES.

What was called Opimian wine is said to have been kept for two hundred years; but the moderns keep no wines to any such age; for in Italy and Germany, where they are longest preserved, scarcely any, it is said, are

* See Vinegar, Index.

† Albo, says Addison (who travelled through Italy in the years 1701, 2, and 3) still retains its reputation for wine.

If credit may be given to the assertions of a celebrated ancient Latin epigrammatist, wine might formerly be obtained with more facility than water in some parts of Italy.

Lodg'd at Ravenna, water sells so dear,
A cistern to a vineyard I prefer.

By a Ravenna vintner once betray'd,
So much for wine and water mix'd I paid;
But when I thought the purchas'd liquor mine,
The rascal sobb'd me off with only wine.

MARTIAL:

found

found above fifteen years old* ; and in France, the best keeping wines are reckoned superannuated in five or six years.

The wines of Italy are still deemed excellent, particularly those of Savoy, Piedmont, Lombardy †, the Pope's late territories, Naples, and Tuscany. Florence, the capital of the last-mentioned district, is delightfully situated in "Arno's fertile vale," between mountains covered with olive-trees and vines.

"There grapes in thickest clusters hang
"Among the sweets of Arno's vale."

If a tun of Florence wine were bottled off into hampers, containing severally 3 dozen of quart bottles, and 2 dozen of pint bottles, how many hampers would there be of each sort? *Ans.* 21 of each.

No. 479. GREEK OR TURKEY WINES.—The wines so denominated come from Candia, Chios, Lesbos, Tenedos, and other islands of the Archipelago, which anciently belonged to the Greeks, but now chiefly to the Turks. The ancient poets were lavish in praise of this wine. That of Lesbos is mentioned in Virgil's *Georgics*:

Nor our Italian vines produce the shape,
Or taste, or flavour of the Lesbian grape,

And Horace, inviting his mistress to his country seat, promises to entertain her with a glass of Lesbian, which he calls *innocent*, or *harmless* ‡. The same poet also makes frequent mention of the wine of Chios, and Virgil takes notice of it in one of his *Eclogues*:

Two goblets will I crown with sparkling wine,
The gen'rous vintage of the Chian vine;
These will I pour to thee, and make the nectar thine.

DRYDEN.

* This statement is not in unison with Mr. Wraxall's assertion on the same subject. See *Quest.* 469, p. 280.

† Lombardy formerly comprehended a considerable part of the North of Italy.

‡ *Lib. i. Od. 17.*

The ritual feast shall overflow with wine,
And Chio's richest nectar shall be thine.

WARTON.

Chio, now Scio, is one of the most beautiful and pleasant islands in the Archipelago; it is situated South of Mytilene, the ancient Lesbos*. Its vineyards still form the principal riches of the island, and the wines maintain their reputation; and, having been immortalized by the "Mantuan Bard" yet "taste sweet in song."

Supposing each of the two goblets, mentioned by Virgil, to have contained a pint and three quarters, how many times might they both be filled out of a pipe of Chian wine? *Ans.* 288 times.

No. 480. TOKAY.—The same kind of grape proves very different in taste and flavour, according to the climate, and its exposure to the sun. Tokay is an exquisite Hungarian wine; and one particular sort is the produce of a hill which directly fronts the South, and is called, from the peculiar sweetness of its grapes, the sugar-hill. This, says Neuman, affords the most delicious wine, and is appropriated to the sole use of the imperial family; hence, perhaps, came the epithet "Imperial Tokay." Tokay, or Tockay, is a strong but inconsiderable town in Upper Hungary, only noted for its wine†.

How many cases, each holding a dozen of half pint bottles, could be filled out of half a hoghead of Tokay wine? *Ans.* 42 cases.

No. 481. CLARET.—Claret, or claret, *pale-red*, is a name given by the French to such of their red wines as are not of a deep or high colour. The word is a diminutive of *clair*, *bright*, *transparent*. Lord Chesterfield, in his celebrated letters to his son, informs him, that claret comes from BOURDEAUX; a testimony confirmed by the authors of the Ency. Brit. who affirm, that the country adjacent to this city not only produces the finest clarets,

* See Exer. on the Globes, 4th edit.

† Boswell says, that a rich sweet wine, which has a great resemblance to Tokay, is made in some of the villages of Corsica.

but, at the season of the vintage, forms one of the most delicious landscapes in the world. Mr. Townsend says, that a generous wine, produced near Alcala in Spain, is much used for enriching the poorer wines in the neighbourhood of Bourdeaux, for the purpose of making claret*.

Bourdeaux, in the department of Gironde, and late province of Guienne, is an ancient, large, handsome, and rich town, situated on the beautiful river Garonne. A hundred thousand tuns of wine and brandy are said to be exported annually from Bourdeaux †.

Supposing three-fourths of the above quantity to be claret, how many hampers, each containing 3 dozen quart bottles, could be filled out of it? *Ans.* 2,100,000 hampers.

No. 482. SCHIRAS WINE.—Schiras is generally esteemed the second city of Persia; Isfahan being considered as the capital; though Colonel Capper, who was in that country in 1778, assures us, that the seat of government was transferred the same year from the latter to the former city †. The city of Schiras, on account of the number of ingenious and learned men born in it, has been denominated the *Athens of Persia* §. The wine of Schiras is not only the best in Persia, but, as some think, in the whole world. It is so potent as to admit two-thirds of water without spoiling the flavour.

* Journey, vol. iii. p. 302.

† Our Richard II. son of the celebrated Black Prince, and grandson of Edward III. was born at Bourdeaux. See Chron. and Biog. Exer.

‡ See also art. Persia, Ency. Brit.

§ His Excellency Mirza Aboo al Haffan, Envoy Extraordinary from the King of Persia to the Court of Great-Britain, is a native of Shiraz. This gentleman has on various occasions travelled in Hindoostan and Arabia, performed his devotions at Mecca; and in the course of his journey from TEHRAN (the present capital of Persia, situated near the Caspian Sea), he passed through Georgia, Armenia, and Natolia to Constantinople. From this city he was conveyed in a British frigate to Malta, where he embarked on board a ship of war, touched at Gibraltar, and landed in England in December 1809.

The pamper'd here refine their taste,
Rich wines of Schiraz crown the feast.

HOPPNER'S *Oriental Tales*.

Schiras, Schirauz, or Sheeraz, is most delightfully situated in a fertile plain*, about 200 miles South of Ispahan. It contains many beautiful gardens, where

“ Commingling sweets,
“ Breath'd from innum'rous flow'rs, fill the air,
“ And shadowy trees with luscious fruits are hung;”—

infomuch, that some have not scrupled to style this place *an earthly paradise*.

The magnificent ruins of the renowned Persepolis, the ancient capital of the Persian empire, are about 30 miles North-East of Schiras. That immense city was destroyed by Alexander the Great, who, in a fit of intemperance, was induced by the depraved courtesan Thais, to set it on fire. This profligate monarch soon after terminated his ambitious career by intoxication at Babylon†, in the 33d year of his age. At his final drunken carousal, though already in a state of inebriation, he had the presumption to empty the cup of Hercules‡, which, according to Rollin, held six bottles, at a single draught. Alexander was born at Pella, now Janizza, in Macedonia, Turkey in Europe; and was interred at Alexandria in Egypt. See Chron. and Biog. Exer. April 21, 323 B. C.

Supposing each bottle to contain a pint and a half, how many times could this fatal cup have been filled from a pipe of Schiras wine? *Ans.* 112 times.

No. 483. ANCIENT HOSPITALITY.—The following character of the “ hospitable, rich, and good AXYLUS§,” as drawn by Homer, affords an admirable instance of ancient hospitality :

* With her o'er Schiraz' roseate plain he roved.

WRANGHAM.

† See Quest. 13 and 14. ‡ See Exer. on the Globes.

§ Axylus was a Trojan, and killed at the siege of Troy :

Breathless the good man fell ; and by his side
His faithful servant, old Calceus, dy'd.

POPE'S HOMER.

In fair Arifba's walls (his native place)
 He held his feat; a friend to human race.
 Fast by the road, his ever-open door
 Oblig'd the wealthy, and reliev'd the poor.

POPE'S HOMER.

Hospitality has always been much in esteem among civilized people. It was, indeed, believed, that the gods sometimes visited the world disguised like travellers, and observed the conduct of mankind*. The apprehension of despising some god instead of a traveller, induced them to receive strangers with respect, and the rights of hospitality were most sacred and inviolable.

Scripture furnishes several examples of hospitality exercised by the patriarchs †. And our Saviour tells his apostles, that whoever received them, received him himself, and that whosoever should give them a cup of water, should not lose his reward ‡. St. Peter and St. Paul also recommend hospitality §. The primitive Christians were so ready in the discharge of this duty, that the very heathen, it is said, admired them for it ¶. It has been well observed, however, that as there were in the eastern countries few houses of public entertainment, hospitality was a virtue more peculiarly seasonable and necessary there than among us; especially so far as it related to the accommodation of entire strangers on their travels. Moreover, for hospitality as formerly practised there is now no longer the same reason, particularly in a commercial country. Heretofore the poor were numerous, and from the want of trade, their means of getting a livelihood were difficult; supporting them was therefore an act of great

* See Exer. on the Globes, art. Orion, Jupiter, and Mercury.

† See Gen. chap. xviii and xix.

‡ See Matt. x. 40, 41, and also Chap. xxv. ver. 43.

§ See 1 Peter iv. 9. 1 Tim. iii. 2. and Titus i. 8.

¶ The Hindoos extend their hospitality sometimes to enemies, saying, "The tree does not withdraw its shade even from the wood-cutter." BURDER'S Oriental Customs, v. i. p. 354. The Hindoos are the same as the Gentoos. See Chron. and Biog. Exer. art. Gentoos.

benevolence ;

benevolence; now that they can find maintenance for themselves, and their labour is wanted, a general undiscerning hospitality would tend to ill, by drawing them from their work to idleness and drunkenness.

GELLIAS, of Agrigentum, in Sicily, who was famous for munificence, having built several inns for the relief of strangers, appointed persons at the gates to invite all who travelled to make use of them; and this example was followed by many others, who were inclined, after the ancient manner, to live in a humane and beneficent correspondence with mankind. Travellers assure us, that the same generous disposition still prevails in that country; and that they receive pressing invitations from several of the principal inhabitants. Their entertainments are profuse, and consist of a variety of dainties, especially of the finest fruits, and ices of all kinds, made in the likeness of peaches, oranges, pomegranates, and pine-apples*.

Gellias entertained and clothed† at one time no less than 500 horsemen, who by a violent storm were driven to take shelter with him; and there were in his cellars 300 vessels, each of which contained 100 hogshheads of wine. How many pints are in that quantity? *Ans.* 15,120,000.

ALE

* Generous and eminently hospitable, the Fezzaner, says a modern traveller, let his fare be scanty or abundant, is ever desirous that others should partake of his meal; and if twenty people should unexpectedly visit his dwelling, they all must participate as far as it will go †.

Proceedings of the African Association, p. 144.

No nation in the world, according to Mr. Macpherson, carried hospitality to a greater length than the ancient Scots. It was even infamous, for many ages, in a man of condition, to have the door of his house shut at all, LEST, as the bards express it, THE STRANGER SHOULD COME AND BEHOLD HIS CONTRACTED SOUL. Some of the chiefs were possessed of this hospitable disposition to an extraordinary degree; and the bards, perhaps upon a private account, never failed to recommend it in their eulogiums. *Ossian's Poems, vol. ii. p. 9, edit. 1796. See Ossian, Index.*

† The illustrious and opulent among the ancients were employed not merely in accumulating gold and silver, but in amassing a prodigious number of sumptuous and magnificent habits, which they regarded as a necessary and indispensable part of their treat-

† See Hecfor St. John's Letter.

ALE AND BEER MEASURE.

Ale and beer are fermented liquors obtained from an infusion of malt; the former differing from the latter chiefly in having a less proportion of hops. This liquor, the natural substitute of wine, in countries that could not produce the grape, was originally made in Egypt, the first-planted kingdom, on the dispersion from the East, which was supposed unable to produce grapes. And as the Noachian colonies penetrated further into the West, they found, or thought they found, the same defect, and supplied it in the same manner. Thus the natives of Spain, the inhabitants of France, and the aborigines of Britain, all used an infusion of barley for their ordinary liquor: and it was called by various names, all literally importing only *the strong water*. The ancient Britons and other Celtic nations sometimes made their ale of wheat*, oats, and millet. This was the favourite liquor of the Anglo-Saxons and Danes, as it had been of their ancestors, the ancient Germans. Before their conversion to Christianity, they believed that drinking large and frequent draughts of ale was one of the chief felicities which

fures. Their fashion in clothes was not in that precarious and fluctuating state which ours continually experiences. They stored their wardrobes with an almost incredible number of the richest vests, which, according to the custom of those times, were universally reputed to be as essential a part of riches as large estates or chests of gold. Hence in the detail of a great man's wealth, the numerous and superb suits of apparel he possessed, never fail to be regarded. Hence our Lord's allusion, Matt. vi. 19. So also St. Paul, Acts xx. 23. and St. James, v. 2, 3.

Dr. HARWOOD'S Introduction to the study of the New Test. vol. ii. p. 245.

That the wardrobes of dignified personages were amply furnished, we learn also from the parable of the wedding banquet in the 22d chap. of Matthew. For, as Dr. Dodridge justly remarks*, it could not be expected that *travellers* thus pressed in should themselves be provided with a suitable habit. Hence the resentment of the king against the offending guest became justifiable—the offered robe having been refused by him.

* See Quest. 491.

* Fam. Expof. vol. ii. p. 347.

those heroes enjoyed who were admitted into the hall of Odin *. To heighten the enjoyment, they were moreover assured, that their favourite beverage should be drank out of the skulls of their enemies.

No. 484. ALE.—Ale is made by infusing malt in hot water, and then fermenting the liquor by the application of barm or yeast. Hops are also an essential ingredient.

There are various sorts of ale known in Britain, particularly *pale* and *brown*: the former is brewed from malt slightly dried; and is esteemed more viscid than the latter, which is made from malt more highly dried. Many places in England are famous for the excellency of their ale, particularly Dorchester in Dorsetshire, and Burton in Staffordshire. The ale of this last county is by some deemed incomparable, and great quantities of it are sent down the Trent to Hull, and exported to other parts of the kingdom, and abroad. This liquor is the favourite beverage of the peasantry in most of the English counties: the poor man's "sweet oblivion of his daily care" Goldsmith, in his exquisite poem of "The Deserted Village," laments the decay of a village ale-house:

Low lies that house where nut-brown † draughts inspir'd,
Where grey-beard mirth and smiling toil retir'd;
Where village statesmen talk'd with looks profound,
And news much older than their ale went round.
Obscure it sinks, nor shall it more impart
An hour's importance to the poor man's heart ‡.

Ale

* See the Ency. Brit. art. Ale; and Chron. and Biog. Exer. art Wednesday.

† See Quest. 493.

‡ In ancient times it was customary to present to malefactors, on their way to the gallows, a great bowl of ale, as the last refreshment they were to receive in this life. Such a custom prevailed at York, which gave rise to the saying, that the sadler of *Bawtry* * was hanged for leaving his liquor. Had he stopt, as usual, his reprieve, which was actually on the road, would have arrived time enough to have saved him. PENNANT'S London, p. 179, edit. 1793.

Intoxicating draughts used anciently to be given to malefactors just before their execution, to stupify them, and render them insensible.

* Bawtry is a town in the West-Riding of Yorkshire, situated near the river Idle.

Ale is of so great antiquity in this kingdom, that in the year 1492, we meet with a license from Henry VII. to John Merchant, a Fleming, to export fifty tons of this liquor*.

Supposing a ton of ale to contain four hogheads, how many firkins, quarts, and pints, are in the above-mentioned quantity? *Ans.* 1,200 firkins; 38,400 quarts, 76,800 pints.

No. 485. BEER.—Beer, like ale, as we have before observed, is a liquor made of malt and hops. It is, however, distinguished from ale, either by being older, stronger, or smaller. The following phrase denotes, we presume, beer of superior potency :

Here's a pot of good *double beer*, neighbour; drink.

SHAKESPEARE.

Barley-broth is also a low word often used by the vulgar for strong beer, and is so employed by Shakespeare :

—Can foddren' water,—their barley-broth,
Decoët their cold blood to such valiant heat ?

Old or strong beer is sometimes called by the cant word, *Stingo*. It is moreover designated by the term *October*; because that month is held to be peculiarly propitious to the brewing of this grateful beverage :

Nor wanting is the brown OCTOBER, drawn,
Mature and perfect, from his dark retreat
Of *thirty years*: and now his honest front
Flames in the light refulgent, not afraid
Even with the vineyard's best produce † to vie.

THOMSON.

of their pain. The compassionate ladies of Jerusalem generally provided this potion (which consisted of frankincense and wine †) at their own cost. The foundation of this humane custom was the command of Solomon. See Prov. xxxi. 6. See BURDER, i. 196.

* See Dr. Rees's New Cyclop. art. Beer.

† The accent is here *misplaced* on the last syllable; the noun should be sounded *prod'uce*; the verb, *to produce*.

† See Vinegar, Index.

The

The British beer is said to be superior to that of other countries, even of Bremen*, Mons†, and Rostoch‡.

Soon after the commencement of the ill-fated American war, two brewers agreed to supply government with 10,000 butts of strong beer, for the use of our troops in Boston§, the capital of New-England. How many pints were in that quantity? *Ans.* 8,640,000 pints.

No. 486. SPRUCE BEER.—This is a kind of diet-drink made by infusion or coction of the leaves and small branches of the black and white spruce-fir, and reckoned antiscorbutic. It is much drank in America; and at present considerable quantities are consumed in England. Arbuthnot deems it a good balsamic in some internal disorders.

In as many butts of spruce beer as there are calendar months in a year, as many hogheads as there are weeks in a year, and as many firkins as there are days in a year; how many pints? *Ans.* 59,112 pints.

No. 487. ANCIENT MAGNIFICENCE.—Magnificence and hospitality were frequently displayed by the ancient nobility of England, particularly in the reign of Elizabeth. This spirit was much encouraged by the frequent visits which the queen paid her nobility, and the sumptuous feasts which she received from them. The Earl of Leicester gave her an entertainment in Kenilworth-Castle, Warwickshire, which was extraordinary

* Bremen, in the North-West part of Germany, is a populous commercial city, situated on the river Weser. Its beer is greatly esteemed by the Germans, and much of it was formerly exported. See *Quest.* 469. p. 280.

† Mons is the chief city of Hainault, in the Netherlands. It surrendered to our celebrated Duke of Marlborough in 1709, after he had defeated the French at Malplaquet, a few miles from this place. See *Marlborough, Chron. and Biog. Exer.*

‡ Rostoch is situated in the North of Germany. The number of privileged brewers has formerly been estimated at 250, who are stated to have brewed 250,000 tuns of beer annually. The exportation of beer is, we apprehend, at present chiefly confined to England.

§ This place had the honour of giving birth to the renowned Franklin. See *Chron. and Biog. Exer.*

for expence and magnificence. — The tradition of this grand festivity still lives in the country, and we have hardly any thing of the kind equal to it on record. It began July 19, 1575, in the evening, and continued, according to some accounts, seventeen, according to others nineteen days, each of which was diversified with masks, interludes, hunting, music, and a variety of other amusements. The diurnal expence is said to have been a thousand pounds to the Earl. Surely, observes Hume, one may say of such a guest what Cicero * says to Atticus †, on occasion of a visit paid him by Cæsar: If she relieved the people from oppressions, her visits were a great oppression on the nobility ‡.

Among other particulars of this celebrated feast, we are told that 365 hogshheads of beer were drank at it. How many pints are in this quantity? and supposing the entertainment to have continued nineteen days, and one pint to have been added to the entire quantity consumed, how many pints were drank on an average daily? *Ans.* 157,680 pints; 8,299 pints drank daily.

No. 488. CAPACIOUS BEER CASKS.—A few years before Mr. Thrale's death, which happened in 1781, an emulation arose among the brewers to exceed each other in the size of their casks, for keeping beer to a certain age; probably, says Sir John Hawkins, taking the hint from the tun at Heidelberg §. One of the trade, Mr. Whitbread, it is conjectured, had constructed one that would hold some thousand barrels, the thought of which troubled Mr. Thrale, and made him repeat, from Plu-

* See Chron. and Biog. Exer.

† See Exer. on the Globes.

‡ A citizen of Abdera said of the repast of Xerxes.—“It is fortunate that the king eats but once a day; for if he were to breakfast to-day, as he supped last night, there would be an end of Abdera.” This was a maritime city of Thrace §. The air was so unwholesome, and the inhabitants of such a sluggish disposition, that stupidity was commonly called *Abderitica mens*. See Quest. 18, p. 21.

§ See Quest. 469, p. 280.

¶ See *Græcia Antiqua*, in Wilkinson's Atlas Classic.

tarch, a saying of Themistocles* : " The trophies of Miltiades† hinder my sleeping." Yet the late Mr. Boswell, in his Journal, relates, that Dr. Johnson once mentioned that his friend Thrale had four casks so large that each of them held 1,000 hogheads. But Mr. Meux, of Liquorpond-Street, Gray's-Inn-Lane, can, according to Mr. Pennant‡, shew 24 vessels containing in all 35,000 barrels; one alone holds 4,500 barrels; and in the year 1790, this enterprizing brewer built another, which cost £5,000, and contains nearly 12,000 barrels; valued at about £20,000. A dinner was given to 200 people at the bottom, and 200 more joined the company to drink success to this unrivalled vat.

How many gallons, quarts, and pints of beer, will the last mentioned vessel contain more than Mr. Thrale's 4 casks? *Ans.* 216,000 gallons; 864,000 quarts; 1,728,000 pints.

No. 489. PORTER.—This is a kind of malt liquor, which differs from ale and pale beer in its being made with high-dried malt. Dr. Ash§ says, that it obtained this appellation from being much drank by porters in the city of London||. Mr. Pennant, speaking of porter (genuine

* See Quest. 20, p. 23.

† See Quest. 17, p. 20.

‡ Account of London, p. 322, edit. 1793.

§ Dr. John Ash, author of a popular "Introduction to English Grammar," an "English Dictionary," (a remarkably laborious work) and other useful performances, was many years a respectable dissenting minister at Pershore, in Worcestershire, where he died in 1779, in the 55th year of his age.

|| This happened about the year 1730, from the following circumstance. The malt liquors in general use, prior to that period, were *ale*, *beer*, and *two-penny*, and it was customary to call for a pint or tankard of *half* and *half*, *i. e.* half of ale and half of beer;—half of ale and half of two-penny;—or half of beer and half of two-penny. In the course of time it also became the practice to ask for a pint or tankard of *three breads*, meaning a third of ale, beer, and two-penny; and thus the publican was obliged to go to three casks for a single pint of liquor. To avoid this trouble and waste, a brewer, of the name of HAWOOD, conceived the idea of making a liquor which should partake of the united flavours of *ale*, *beer*, and *two-penny*.

(genuine porter it may be presumed), calls it a wholesome liquor, which he says enables the London porter-drinkers to undergo tasks that ten gin-drinkers would sink under. Malt liquor has had many advocates both in prose and verse. Mr. Bloomfield, in his admired poem entitled "The Farmer's Boy," calls it a "sovereign cordial;" and the modern Scotch bard thus apostrophizes it:

Thou clears the head o' doited lear;
 Thou cheers the heart o' drooping care;
 Thou strings the nerves o' labor fair,
 At's weary toil;
 Thou ev'n brightens dark despair
 Wr' gloomy smile.

BURNS.

It is, however, as Dr. Colquhoun rightly observes, a mistaken notion, that a large quantity of malt liquor is necessary to support labourers of any description. After a certain moderate portion is taken, it not only enervates the body but stupifies the senses. A coal-heaver who drinks from 12 to 16 pots of porter in the course of a day, would receive more real nourishment, and perform his labour with more ease and a greater portion of athletic strength, if only one-third of the quantity were consumed. He would also enjoy much better health, and be fitter for

two-penny. He did so, and succeeded, calling it *entire* or *entire butt beer*, meaning that it was drawn entirely from one cask or butt; and being a hearty nourishing liquor, it was very suitable for porters and other working people. Hence it obtained its name of *porter*.

Picture of London for 1804, p. 26.

To the above extract, which we have reason to believe contains a correct statement, we are enabled from personal inquiry to subjoin, that Mr. Harwood was one of the partners in a respectable brewery, known by the name of the "Bell-Brewhouse," Shoreditch. A contemporary bard of the neighbourhood, whose muse had been often invigorated by "potations pottle deep" of Mr. H's newly-discovered beverage, chanted its praise in a ballad which was long popular, and is still preserved in the Rev. Mr. Ellis's History of Shoreditch.

Entire butt beer was first retailed at the Blue Laff, Curtain-Road; and the intercourse between that public-house and the Bell-Brewhouse, has continued ever since without intermission.

The proprietors of the Bell-Brewhouse in 1806, were Messrs. Pryor,

his

his labour the following day. This intelligent writer, after much investigation, has discovered, that there are consumed and sold annually in 5,000 public-houses in and round the metropolis, 158,400,580 pots of porter, ale, and two-penny, exclusive of gin and compounds from the distillers and rectifiers*. How many butts, beer measure, are in the above quantity? *Ans.* 366,668 butts, 1 gallon.

No. 490. QUANTITY OF PORTER BREWED IN LONDON IN 1789.—The sight of a great London brew-house, says Mr. Pennant, exhibits a magnificence unspeakable. The breweries form an important national concern, as the duty on malt has some years produced not less than £1,500,000 sterling towards the support of the state; and the exportation of porter is a considerable article of English commerce. In the year 1789, there were brewed by the London porter-brewers 2,881,506 barrels. How many gallons and hogheads are in this quantity? *Ans.* 103,734,216 gallons; 1,921,004 hogheads.

No. 491. MUM.—This is a wholesome kind of malt liquor, brewed chiefly from malt made from wheat instead of barley. It is not thought to be fit for use till it has been full two years in the cask. Mum is much drank in Germany; and Brunswick, a large and strong town of Lower Saxony, is the place of most note for making it; hence it is frequently called Brunswick Mum†. It is sometimes imported into this country, and our own brewers also make small quantities of this bulk-increasing liquor.

Sedulous and stout

With bowls of fat'ning mum.

PHILIPS.

The clam'rous crowd is hush'd with mugs of mum,
Till all tun'd equal send a general hum.

POPE.

* Treatise on the Police of the Metropolis, p. 327, edit. 6.

† It derived its name from Christian Mummien, of Brunswick, its inventor. See Bourn's Gaz.

In 1,921,004 hogshheads of Mum, beer measure, how many gallons and barrels? *Ans.* 103,734,216 gallons; 2,881,506 barrels.

No. 492. BROWN STOUT.—This, like the word *Stingo* in Question 485, is a cant phrase for strong beer.

Should but his muse descending drop
A slice of bread and mutton chop,
Or kindly, when his credit's out,
Surprise him with a pint of *stout*;
Exalted in his mighty mind,
He flies and leaves the stars behind*.

SWIFT.

How many pints are in a butt of *stingo*; and with the addition of 231 pints to the number, how many pints might Swift's crack-brained poverty-ridden poet drink daily, for the whole to last him a year? *Ans.* 864 pints in a butt; 3 pints a day.

No. 493. NUT-BROWN.—This term, when applied to malt liquor, denoted in former times ale or beer, that, in consequence of its age, had become brown like a nut long kept; but the brewers of this generation, being wiser than their predecessors, can, as far as relates to external appearance, accomplish that by art in a few days or weeks, which was heretofore performed by time in as many months, or perhaps in as many years. The attachment of our ancestors to this nutritive and pleasant beverage is often noticed by the poets.

King Hardicanute, 'midst Danes and Saxons stout,
Carous'd on *nut-brown ale*, and din'd on grout†.

KING.

* *Sublimi seriam sidera vertice*—My lofty head shall strike the stars—is a flight of Horace, that has been long employed as a common-place pleasantry.

† Grout, a coarse part of meal, pollard, oats husked, or coarsely ground; in Scotland they call it *groats*, and use it occasionally instead of barley to make broth; but in general, as with us, to feed young poultry. It is what we at present term grits. The monarch's dish of grout was probably an admixture of ingredients. Hardicanute died at Lambeth, in 1042, in the midst of the jollity of a wedding dinner.

Young

Young and old come forth to play,
Till the live-long day-light fail,
Then to the spicy *nut-brown ale*.

MILTON.

Full oft I drain'd the spicy nut-brown bowl.

POPE.

We have mentioned, in question 484, the early exportation of ale from this country. The demand for this article from foreign parts afterwards increased to a high degree. In the reign of Queen Elizabeth, 500 tuns were exported, as is expressed, for the queen's use, at one time, probably for the support of her army in the Low Countries; 350 barrels to Embden; 300 to Amsterdam; and again 800 to Embden*. Now supposing a tun of ale to hold 4 hogsheads, how many pints are contained in the whole of the several quantities above mentioned; and how many hampers, each containing three dozen quart bottles, could be filled out of the total number of pints? *Ans.* 1,139,200 pints; 15,822 $\frac{8}{36}$ number of hampers.

T I M E .

No. 494. TIME.—Time is defined to be a succession of phænomena in the universe, or a mode of duration, marked by certain periods and measures, chiefly by the motion and revolution of the sun. The idea of time in general, we acquire, as Mr. Locke observes, by considering any part of infinite duration, as set out by periodical measures. The idea of any particular time, or length of duration, as a day, an hour, &c. we acquire first by observing certain appearances at regular, and, seemingly, equidistant periods. Some authors distinguish time into astronomical and civil: the former being that taken purely from the motion of the heavenly bodies, without any other regard. The latter is astronomical time, accommodated to civil uses, and formed and distinguished into years, months, days, &c. Time makes the subject of CHRONOLOGY †.

* Pennant's London, p. 319, edit. 3.

† See Chron. and Biog. Exer. p. 1.

It is well observed by an ingenious and valuable writer, that Time was granted to man for his improvement. By the protraction of life fresh opportunities are afforded for our progress in knowledge, virtue, and piety. We were not raised into being that we might be idle spectators of the objects with which we are surrounded. The situation in which we are placed demands reiterated exertion. The spheres in which we move call for the exercise of all the ability with which we may be endowed. Inquiries therefore should be made how improvements can be best effected, either in our individual, social, or public capacities. This conduct will reflect an honour on our rationality. This train of action will elevate us in the scale of being, impart a zest to our enjoyment, and prepare us for the honours of immortality*.

"Hours," says an ancient writer, "have wings, and fly up to the Author of time, and carry news of our usage. All our prayers cannot entreat one of them either to return or to slacken his pace. The mispence of every minute is a new record against us in heaven. Surely, if we thought thus, we should dismiss them with better report, and not suffer them either to go away empty or laden with dangerous intelligence." It is said, that the elder Cato repented of three things—one of which was, his having spent a day without improvement; and a Roman emperor †, celebrated for his amiable qualities, once exclaimed, "I have lost a day," when it had passed without his having made a fellow creature happy. The sentiments of these virtuous heathens, when combined, afford us an admirable lesson; the union of personal advancement in knowledge and piety, with active and efficient benevolence to the human race; constituting, at once, in our present probationary state, the happiest distribution of time, and the height of Christian perfection.

On all-important time, thro' ev'ry age,
Tho' much, and warm, the wife have urg'd, the man

* See the Rev. John Evans's "Reflections on the Commencement of the Nineteenth Century," inserted in the 49th number of the Monthly Visitor.

† Titus, see Quest. 87, p. 43.

Is yet unborn who duly weighs an hour *.
 Think nought a trifle, tho' it small appear ;
 Small sands the mountain, moments make the year,
 And trifles life.—Your care to trifles give,
 Or you may die, before you truly live.

YOUNG.

How many moments are contained in a year, reckoning 365 days, 6 hours, or 8,766 hours to the year? *Ans.* 31,557,600.

No. 495. EPITAPH.—An Epitaph is a monumental inscription, in honour or memory of a person deceased. It has been disputed, whether the ancient Jews inscribed epitaphs on the monuments of their dead ; but be this as it may, epitaphs, it is certain, of very ancient date, are found among them. The Athenians, by way of epitaph, put only the name of the dead, with the epithet " good," or " hero," and a word expressive of their good wishes to the defunct. The Lacedemonians allowed epitaphs to none but those who had died in battle. The Romans inscribed their epitaphs to the *manes*; *diis manibus*. The epitaphs of the present day are generally crammed with fulsome compliments which were never merited, characters which human nature in its best state could scarcely lay claim to, and expressions of respect which were never paid in the life-time of the deceased. Hence the French proverb, with great propriety, took its rise: *Menteur comme une épitaphe*: He lies like an epitaph.

Virgil's celebrated epitaph, which is said to have been dictated by himself on his death-bed, is in direct opposition to most modern inscriptions, being at once short, apposite, and modest :

Mantua me genuit: Calabri rapuere: tenet nunc
 Parthenope †: cecini pascua, rura, duces.

I fung

* See two admirable essays in the *Spectator*, vol. ii. No. 93 and 94, on the employment of time ; and, for a striking example, the character and habits of Dr. Doddridge, as exhibited in Job Orton's life of that excellent man.

† Naples was anciently called Parthenope, from one of the Sirens, whose body was found on the sea-shore and buried there.
 She

I fung flocks, tillage, heroes : Mantua * gave
Me life, Brundufium † death, Naples a grave.

The following epitaph is the simple chronicle of an extraordinary man, and as well told, perhaps, as many of the lofty and pompous inscriptions in the abbey of Westminster :

Beneath this stone, in sound repose,
Lies William Rich, of Lydeard-Close ;
Eight wives he had, yet none survive,
And likewise children eight times five ;
Of great-grand children five times four.
Rich born, rich bred, but Fate ‡ adverse
His wealth and fortune did reverse.
He lived and died extremely poor,
July the 10th, aged ninety-four.

How many moments did the subject of this epitaph exist, reckoning 365 days 6 hours to the year? *Ans.* 2,966,414,400 moments.

No. 496. ENOCH'S TRANSLATION.—When Enoch, (the father of Methuselah) whom Milton styles

The only righteous in a world perverse,
had sojourned upon earth as many years as the year has days, he was translated to heaven §, there, according to the same great poet,

To walk with God
High in salvation, and the climes of bliss,

She was the daughter of the river Achelous. See Exercises on the Globes. Virgil's celebrated tomb is still shewn upon the mountain Paufilippo near Naples, overgrown with ivy, and shaded with bay trees, shrubs, and bushes.

* See Quest. 322. p. 161.

† Brundufium, or Brindisi, was a city of Calabria, on the Adriatic sea, now the Gulf of Venice. The Romans generally embarked at Brundufium for Greece. Hence Pompey made his retreat with his fleet from Cæsar, by whom he had been besieged in this city. See Bladen's Cæsar's Commentaries.

‡ See Exer. on the Globes, art. Fates.

§ See Heb. xi. 5, and Gen. v. 24.

Exempt from death ; to shew us what reward
Awaits the good.

It has been well observed, that the translation of Enoch, without a regular termination of his life by natural dissolution, as it was understood to be a reward of his virtue (for it is recorded of him, that he walked with God), was at once an incontestible proof of God's regard for good men, and of a future provision for them in another world. The miraculous transportation of Elijah* was a further corroboration of the probability of a future state. The Psalms and prophetic writings speak plainly of a life to come, and a state of retribution; and from the number of express declarations of our Saviour himself to this purpose, all Christians seem now to be agreed, that there is a heaven appointed for the good and a hell † for the wicked after death. See Chron. and Biog. Exer. April 5, 33.

How many months, weeks, days, and hours, did Enoch inhabit our planet, reckoning 13 months, 1 day, 6 hours, to the year? *Ans.* 4,745 months; 18,980 weeks; 133,225 days; 3,199,590 hours.

No. 497. ANTEDILUVIAN LONGEVITY.—The term antediluvians is a general name for all mankind who lived before the flood, and so includes the whole human race from Adam to Noah and his family. One of the most extraordinary circumstances which occur in the antediluvian history, is the vast length of human lives in those first ages, in comparison with our own. Few persons now arrive to 80 or 100 years; whereas, prior to the flood, they frequently lived to near 1,000: a disproportion almost incredible, if it were not supported by the joint testimonies of sacred and profane writers. For such a constitution, however, various moral and natural reasons are assigned, which we have not here room to insert. The oldest of the antediluvian patriarchs was METHUSELAH, who lived 969 years †.

* This extraordinary event took place near the Jordan, just after this prophet had divided that river. 2 Kings ii. 8, &c.

† See Exer. on the Globes, 4th edit.

‡ See the Ency. Brit. art. Antediluvians. Methuselah was the son of Enoch. See Gen. v. 21, &c. and Quest. 496, p. 306.

How

How many hours did Methufelah exift? *Ans.* 8,494,254 hours.

No. 498. POSTDILUVIAN LONGEVITY.—Postdiluvians are perfons who have lived fince the deluge. From the different longevities of men in the beginning of the world, after the flood, and in thefe ages, Mr. Derham draws a good argument for the interpofition of a Divine Providence. Immediately after the creation, when the world was to be peopled by one man and woman, the ordinary age was upwards of nine hundred years. Immediately after the flood, when there were three perfons to ftock the world, their age was cut fhorter, and none of thofe patriarchs, excepting Shem, arrived at 500. In the fecond century we find none that reach 240; in the third, none but Terah, that came to 200 years; a part of the world being at that period fo well peopled, that they built cities: By degrees, as the number of people increafed, their longevity decreafed, till it came down, at length, to 70 or 80 years; and there it flood, and has continued to ftand, ever fince the time of Mofes. And by this means the world is neither overftocked, nor kept too thin; but life and death keep a nearly equal pace.

That the common duration of man's life has been the fame in all ages fince the world was peopled, is plain, both from facred and profane hiftory. To pafs by others, Plato lived to 81, and was accounted an old man: and the instances of longevity mentioned by Pliny as very extraordinary, may moft of them be paralleled in modern hiftories, particularly in Dr. Plott's Nat. Hift. of Oxfordfhire and Staffordfhire.

In the year 1670 died Henry Jenkins, who deferves to be remembered on account of his very uncommon age. He was a poor fifherman of Yorkfhire, born in 1591, and lived in the reigns of eight kings and queens of England. He was 169 years old at his death, exceeding the famous Thomas Parr (who died in 1635) full feventeen years*.

* Jenkins was buried at Bolton, near York, and Parr in Weftminfter-Abbey. The latter was born near Shrewfbury. See Chron. and Biog. Exer.

What was the age of Parr at his decease; what year gave him birth; and how many moments did his whole period of existence fall short of that of Jenkins? *Ans.* Age of Parr 152 years; year of his birth 1483; and the difference of the moments they lived 536,479,200.

No. 499. BREVITY OF LIFE.—

Let no fond hopes, my friend! beguile
Thine eyes from life's contracted span;
Nor, sooth'd by fortune's flattering smile,
Deem long the longest date of man.

HORACE, by Mr. WAKEFIELD.

In life, says Dr. Johnson, is not to be counted the ignorance of infancy, or imbecility of age. We are long before we are able to think, and we soon cease from the power of acting. The true period of human existence may, therefore, he subjoins, be reasonably estimated at forty years. Well may we then exclaim with Shakspeare,

The time of life is short!
To spend that shortness basely were too long,
Tho' life did ride upon a dial's point
Still ending at th' arrival of an hour.

A fatal forgetfulness of the fragility of human life has constantly pervaded the majority of mankind. Not only in the slumber of sloth, but in the dissipation of ill-directed industry, is the shortness of life generally forgotten. A few, however, of the wisest and best of men have been distinguished for the well-ordered and conscientious distribution of their time. Of this happy number was our justly celebrated Alfred the Great,

“ Lov'd for that valour which preserves mankind.”

This illustrious monarch* divided that invaluable treasure into three different portions, allotting one to sleep, meals, and exercise; and devoting the other two to writing, reading, business, and prayer.

* See Chron. and Biog. Exer.

Supposing the term of years mentioned by Dr. Johnson were divided in King Alfred's judicious manner, how many hours would the portion allotted to energetic action contain, reckoning 365 days 6 hours to the year? *Ans.* 233,760 hours.

No. 500. EARLY RISING.—

“ Rise, light thy candle, see thy task begun
“ Ere redd'ning streaks proclaim the distant sun.”

Persons, not accustomed to accuracy and minuteness of calculation, will learn with surprise the vast space of time gained by moderation in sleep, or, in other words, how considerably early rising will extend life in a given number of years. The advantages of this habit must, indeed, be very numerous; since divine and human wisdom, the scriptures and the classics, are found to concur in frequent recommendations of it. Not to advert to solitary passages to this effect in other books of holy writ, several of Solomon's proverbs, while inveighing against sloth, or extolling diligence, make the time spent in the repose of sleep, the principal evidence of the former vice, or test of the latter excellence. Our own poets also have been glowing and energetic on this most interesting topic. See particularly Milton's *Paradise Lost* *. The following exquisite lines are taken from Thomson's *Summer* :

Falsely luxurious, will not man awake,
And, springing from the bed of sloth, enjoy
The cool, the fragrant, and the silent hour,
To meditation due and sacred song?
For is there ought in sleep can charm the wise?
To lie in dead oblivion, losing half
The fleeting moments of too short a life,
Total extinction of th' enlighten'd soul!
Or else to feverish vanity alive,
Wild'rd, and tossing thro' distemper'd dreams?
Who would in such a gloomy state remain
Longer than nature craves, when ev'ry muse
And every blooming pleasure wait without,
To bless the wildly-devious morning walk.

* See also *Quest.* 239, p. 125.

He who does not experience the bracing, or inhale the balmy breath of the morning, but half enjoys his existence. "Early rising," says a writer distinguished for his erudition, "has been the constant object of my attention: and it is, indeed, a powerful preservative from vice, a spur to industry and order, and constitutes the most valuable recommendation that literature can boast. I wish my advice, and imperfect experience of its benefits, could persuade every youth to engrave it, in impressions not to be effaced, on the tablet of his heart, and exemplify it in his daily practice *!" Dr. Doddridge, author of many excellent writings, in which his pious, benevolent, and indefatigable zeal, to make mankind wise, good, and happy, is conspicuously manifested, ascribes their production principally, if not entirely, to the habit of rising early. The late John Wesley, so well known for his unprecedented labours in travelling, writing, and preaching, rose constantly at four o'clock in the morning †. In a word, there is scarcely a person eminent for learning or piety, either in ancient or modern times, of whom it is not recorded that he was an early riser.

How much time, in the course of 40 years, does a person who rises at five o'clock in the morning, gain over another, who continues in bed till seven, supposing them both to go to rest at the same hour at night? *Ans.* 3 years, 121 days, and 16 hours.

No. 501. NAVIGATION.—

The Heav'n-conducted prow
Of navigation bold, that fearless braves
The burning line, or dares the wintry pole:
Mother severe of infinite delights!

THOMSON.

Navigation is the art or act of sailing, or conducting a vessel from one place to another, in the safest, shortest, and most commodious way. The art of navigation has been exceedingly improved in modern times, both with regard to the vessels themselves, and the methods of

* Mr. Wakefield's Memoirs, p. 140. 1st edit.

† Chron. and Biog. Exer.

working them. But the greatest advantage which the moderns have over the ancients arises from the mariner's compass, by which they are enabled to find their way with as great facility in the midst of an immeasurable ocean, as the ancients could have done by creeping along the coast, and never going out of sight of land.

Later times, more fortunate, have found
O'er Ocean's open wave the surest course.

The whole globe
Is now of commerce made the scene immense,
Which daring ships frequent, associated
Like doves or swallows in th' ethereal flood,
Or, like the eagle, solitary seen.

DYER.

The state of navigation in ancient times is well expressed in the subsequent lines :

Rude as their ships was navigation then,
No useful compass or meridian known;
Coasting they kept the land within their ken,
And knew no North but when the pole-star shone*.

DRYDEN.

The mariner's compass consists of a circular-brass box, containing a paper card with 32 points or divisions, and a magnetic needle which always turns to the North, excepting a small declination variable at different places †. The magnet, or loadstone, is a sort of ferruginous stone, usually found in iron mines. Various parts of the world produce them, but the best are brought from China and Bengal. The most distinguishing properties of the magnet are—its attracting iron, pointing to the poles of the world, and communicating these properties by touch, to iron. The ancients used the magnet in medicine; the moderns more happily employ it to conduct them in their voyages.

When, from the bosom of the mine,
The magnet first to light was thrown,
Fair Commerce hail'd the gift divine,
And, smiling, claim'd it for her own.

* See Exer. on the Globes, art. Pole-star.

† See Exer. on the Globes, art. Compass, Variation of; and Chron. and Biog. Exer. Sept. 14, 1492.

“ My

" My bark," she said, " this gem shall guide
 " Thro' paths of ocean yet untried,
 " While as my daring sons explore
 " Each rude, inhospitable shore,
 " Mid desert sands and ruthless skies,
 " New seats of industry shall rise,
 " And Culture wide extend his genial reign,
 " Free as the ambient gale, and boundless as the main."

PYR.

The utility of this instrument, however, is not confined entirely to the purposes of navigation; it being occasionally used by travellers in crossing sandy deserts, and other pathless ways :

The trading caravans urge,
 Thro' dazzling snows, their dreary trackless road;
 By compass steering oft' from week to week,
 From month to month.

DYER.

It has been much disputed, who was the inventor of the compass; but the honour is usually ascribed to FLAVIO DE GIOVIA, a native of Amalfi, an ancient commercial city in the kingdom of Naples.

Supposing this event to have taken place 15,841,915,200 moments ago, how many years had it been discovered in the year 1805, and what was the year of its discovery; reckoning 365 days 6 hours to the year? *Ans.* 502 years the time it had been discovered; and the year 1303 was the era of its discovery. It has now (1810) been discovered 507 years.

No. 502. DEATH OF GENERAL WOLFE.—This renowned English officer signalized himself by his valour and military skill upon many occasions, and at length fell a victim to a most dangerous, but glorious and successful enterprize, the conquest of Quebec, the capital of Canada, in North-America. His death is thus related by Smollett. He stationed himself where the attack was most warm; and as he stood conspicuous in the front of the line, he had been aimed at by the enemy's marksmen, and received a shot in the wrist, which, however, did not oblige him to quit the field. Having wrapped a handker-

P

chief

chief round his hand, he continued giving orders without the least emotion, and advanced at the head of the grenadiers, with their bayonets * fixed, when another ball unfortunately

* A bayonet is a short sword or dagger fixed at the end of a musket. This military weapon was invented, at Bayonne, in the department of the Lower Pyrenees, France; whence it derived its name. The first use of them in battle, according to Dufresnoy, was in the year 1693. There are other warlike implements, both offensive and defensive, that have obtained their appellations either from the places at which they were originally invented, or at which they were fabricated with superior excellence. Pistol, a little fire-arm, is said to have taken its name from Pistoya, a city of Tuscany, in Italy; where, as Fauchet tells us, it was first made. The term Chevaux de Frise (sometimes, though rarely, written *Cbeval de Frise*, a *Friesland horse*) is derived from Friesland, one of the Seven United Provinces, where it was invented. It is a piece of timber, larger or smaller as occasion may require, traversed with wooden spikes, five or six feet long, and pointed with iron. It is used in defending a passage, stopping a breach, or making a retrenchment to impede an enemy's cavalry. Carronade, a short piece of ordnance recently introduced into the English navy, was first made at Carron, near Falkirk, in Scotland. A sword is frequently called a Toledo, because that city, which is situated in New Castile, Spain, has been long famous for sword-blades. Bilbo, or Bilbois, also implies a rapier or sword, because at Bilbois, a town in Biscay, Spain, instruments of steel were made in the utmost perfection †. Bilbois obtained their name for a similar reason. They consisted of a bar of iron with fetters annexed to it, and were chiefly employed to punish mutinous or disorderly sailors, by linking the legs of the offenders together in such a manner that all attempts to disentangle themselves were fruitless.

Methought I lay
Worse than the mutines in the bilboes.

SHAKSPEARE.

Several of these machines, with other instruments of greater cruelty, were found on board the Spanish Armada, and are still to be seen in the Tower of London, among the spoils of that defeated armament ‡. It is generally supposed, that they were all designed for the *pious* purpose of torturing refractory Protestants into the Popish faith. A broad-sword acquired the title of a Ferrara, from a handsome city in the North-East part of Italy, of that name, formerly in great estimation for its manufacture of this ar-

† See Damask, Index.

‡ See Armada, Index.

fortunately pierced the breast of this young hero, who fell in the arms of victory, just as the enemy gave way. When the fatal ball took place, General Wolfe, finding himself unable to stand, leaned upon the shoulder of a lieutenant, who sat down for that purpose. The officer, seeing the French give way, exclaimed, "They run! they run!"—Who run?" cried the gallant Wolfe, with great eagerness; when the lieutenant replied, "The French;"—"Then," said he, "I die happy." So saying the hero expired, in the 34th year of his age:

"Short was his date, but deathless his renown."

A death more glorious, and attended with circumstances more picturesque and interesting, is no where to be

ticle *. The Scotch Highlanders, who had a greater demand for these swords, and were nicer in the choice of their blades, than any other people, were accustomed to procure them from a celebrated artificer of that place of the name of Andrea di Ferrara; and the best kind of broad-swords are, if we are rightly informed, still called by the Highlanders, "True Andrew Ferraras;" weapons which, according to their admired poet, those brave mountaineers are prompt in drawing in defence of their king and country:

Bring but a Scotsman frae his hill,
Clap in his cheek a Highland gill †,
Say, such is royal George's will,
An' there's the foe,
He has nae thought but how to kill
Twa at a blow.

BURNS.

The 42d Regiment of Highlanders is complimented by their countryman, Sir Archy M'Sarcastm, in *Love à la Mode*, for their gallant conduct at Quebec; and the effectual use of their "Andrew Ferraras." And it is worthy of notice, that the present 42d Regiment of Highlanders behaved with the greatest gallantry in the memorable battle of Alexandria. See March 21, 1801, *Chron. and Biog. Exer.*

Mr. Bellham has given a most masterly and animated delineation of the ancient Highlanders, in his "History of Great-Britain, from the Revolution to the Accession of the House of Hanover."

* Ferrara, says Dr. Meyer (*Voyage en Italie*), once a city highly flourishing, and the residence of the most polished personages in Italy, is now a desert.

† Of Whiskey. This word implies water, and is applied in the Highlands and islands of Scotland, and also in Ireland, to a strong water or liquor drawn from barley by distillation.

found. The death of Epaminondas* only, to which that of Wolfe has been compared, seems to dispute the pre-eminence!

* See Question the 19th. The glorious deaths of other heroes press at the same time upon the imagination—of a Bayard, a Gaston de Foix, a Sidney, a Gustavus Adolphus, a Caillemore, a Peirson, a Defaix, an Abercrombie, a Nelson, and a Moore.

The Chevalier BAYARD was descended from a noble family in Dauphinè, in which province he was born in 1476. So distinguished was his valour, and so eminently was he adorned with virtue, that he obtained the surname of *Le bon Chevalier sans peur et sans reproche*. In 1495 he accompanied Charles VIII. into Naples, where he performed incredible acts of heroism; opposing one time alone, upon a bridge, the united efforts of 200 cavaliers †. In 1499, he was employed by Louis XII. to subdue the Milanese. In 1512, he assisted Gaston de Foix in taking the city of Brescia; and in 1515, he fought by the side of Francis I. at the famous battle of Marignan ‡. Being mortally wounded in 1524 in an action with the Imperialists in Italy, and perceiving his dissolution rapidly approaching, he recommended himself to God in fervent prayer, and then requested to be placed beneath a tree, with his face towards the enemy, at that time victorious, saying, "As in life I always faced the enemy, so in death I will not turn my back upon them." See Moreri's Dict. edit. 10, in French.

GASTON DE FOIX, duke of Nemours, was the nephew of Louis XII. § by whom he was intrusted with the command of the French army in Italy, and in a few months performed such feats of military art and prowess, as were sufficient to render illustrious the life of the oldest captain. His career finished with the great battle of Ravenna, which, after the most obstinate conflict, he gained over the Spanish and Papal armies. He perished the very moment his victory was complete; and with him perished the fortune of the French forces in Italy. The battle happened on the 11th of April 1512, and the young hero was only in the 24th year of his age. See Moreri's Dict. and Hume's Hist. of England, vol. iii. p. 423. edit. 1789.

SIR PHILIP SYDNEY, a native of Penshurst, in Kent, was wounded at the battle of Zutphen, and expired at Arnheim, in the United Provinces, October 16, 1586, in the 33d year of his age. See Chron. and Biog. Exer.

GUSTAVUS ADOLPHUS, king of Sweden, was killed in 1632, in the 38th year of his age, at the battle of Lutzen, in the midst of a complete victory. See Chron. and Biog. Exer.

† Cocles, a celebrated Roman, opposed alone the whole army of Porfenna at the head of a bridge, while his companions behind were cutting off the communication with the other shore. When the bridge was destroyed, Cocles, though wounded by the darts of the enemy, leapt into the Tiber, and swam across it without the loss of his arms. A brazen statue was raised to him in the temple of Vulcan, by the consul Publicola, for his eminent services.

‡ See Chron. and Biog. Exer.

§ See Chron. and Biog. Exer.

eminence! The death of general Wolfe happened 1,451,649,600 moments before the year 1805; how many years had he then been dead; what was the year of his death, and how long has his demise preceded the present year 1810? *Ans.* 46 years; the year of demise was 1759, and he has been slain 51 years.

The brave **CALLEMORE** commanded one of the Protestant regiments at the battle of the Boyne, in 1690. After having received a mortal wound, he was carried back through the river by four soldiers; and though almost in the agonies of death, he with a cheerful countenance encouraged those who were crossing to do their duty, exclaiming, *A la gloire, mes enfans; à la gloire!* To glory, my lads; to glory *! See Boyne Battle, Chron. and Biog. Exer. and Smollett's Contin. of Hume, vol. i. p. 93.

MAJOR PEIRSON lost his life in the moment of defeating the French forces at St. Helier, in the island of Jersey, Jan. 6. 1781. See Chron. and Biog. Exer. art. Peirson and Boydell; and Quest. 618.

The intrepid French general **DESAIX**, whose critical arrival, with his troops on a full gallop, turned the fortune of the day, and decided the victory in favour of Bonaparte, at the dreadful battle of Marengo, received a mortal wound in the instant of victory. His death is pathetically lamented by Petit in his "Marengo;" to which work is annexed a memoir by Foudras, on the death and character of General Desaix; which, as a compliment to a brave man, will not be unacceptable to the British nation, who know how to respect talents and virtue in an enemy as well as in a friend.

Marengo is a village adjacent to Alessandria, in Italy, in about 45 deg. of N. lat. and nearly 9 deg. of E. long. The battle was fought on the 14th of June 1800. See Chron. and Biog. Exer.

SIR RALPH ABERCROMBIE received his death-wound in the moment of achieving a great victory over the French at Alexandria in Egypt, March 21, 1801. See Chron. and Biog. Exer.

The peerless naval hero, **LODGE NELSON**, terminated his brilliant career in the instant of obtaining a splendid conquest over the combined fleets of France and Spain on the 21st of October 1805, near Cape Trafalgar in Andalusia, Spain. See Chron. and Biog. Exer.

SIR JOHN MOORE was mortally wounded whilst defeating the French at the battle of Corunna in Galicia, Spain, on the 16th of Jan. 1809. See Chron. and Biog. Exer. 4th edit.

* The brave French general, Joubert, who fell crowned with glory at the battle of Novi, in the moment of dissolution cried aloud to his fellow-soldiers, "Marchez, marchez, mes enfans; je meure pour ma patrie."

The brave Serjeant Graham, who, at the storming of Seringapatam, first planted the British ensign on its walls, had scarcely emitted the word "Hazza" before he was shot dead by the enemy. See Chron. and Biog. Exer.

No. 503. "THE PATRIOT OF THE WORLD."—This glorious epithet has been applied with peculiar propriety to that celebrated philanthropist Mr. HOWARD, whose activity, unchecked by danger, carried him half over the globe, to relieve the miseries of mankind. Regardless of his health, his repose, and his safety, he traversed inhospitable tracts, to mingle with barbarous multitudes; to plunge into the midst of contagion! thither his noble fervor urged him—unterrified "by the arrow that flieth by day, or the pestilence that walketh in darkness"—to visit those who had no comforter! to heal the broken-hearted; to proclaim liberty to the captives, and the opening of the prison to them that are bound.

He, touch'd with human woe, redressive search'd
 Into the horrors of the gloomy jail,
 Unpitied, and unheard, where misery moans,
 Where sickness pines, where thirst and hunger burn,
 And poor misfortune feels the lash of vice*.

THOMSON.

To enter the dwellings of the wretched, to examine debts, and wants, and diseases; to endure loathsome sights and smells, within the sphere of infection; to give time, and thought, and hands, and money—this, observes an ingenious writer, is the *substance*, not the *shadow* of VIRTUE. This "friend to every clime" fell a victim to his indefatigable humanity, January 20, 1790, in the 65th year of his age, at CHERSON, the capital of New-Russia, situated on the river Nieper, about 50 miles E. of Oczakow. He was a native of Hackney, a village in Middlesex †. How many moments have elapsed from the time of Mr. Howard's death to the same period in the present year 1810? *Ans.* 631,152,000 moments.

No. 504. DEATH OF CAPTAIN COOK.—This consummate seaman was a native of Marton, a village in the

* It has been excellently remarked by a celebrated author, that if misery be the effect of virtue, it ought to be revered; if of ill-fortune, to be pitied; and if of vice, not to be insulted, because it is perhaps itself a punishment, adequate to the crime by which it was produced.

† See *Quest.* 233, p. 73. and *Chron. and Biog. Exer. art.* Hackney.

North

Northriding of Yorkshire, where he was born October 27, 1728. His nautical talents are allowed to have been unequalled. Not his own country only, but all Europe; has borne testimony to his merit. Such was the ardour of his zeal, that he thrice circumnavigated the globe, explored the utmost navigable limits of the ocean, and cheerfully sustained the tropical heat and the polar cold:

His dauntless breast did brave
The scorch'd equator, and th' antarctic wave;
Climes, where fierce suns in cloudless ardours shine,
And pour the dazzling deluge round the line;
The realms of frost, where icy mountains rise,
Mid the pale summer of the polar skies.

Miss SEWARD.

This illustrious navigator at length fell a sacrifice to the momentary fury of 'an obscure savage,

" Far from his friends, and from his native shore."

But his name will be held in honour, and recited with applause, so long as the records of human events shall continue in the earth; nor is it possible, as Dr. Kippis * observes, to say, what may be the influence and rewards which, in other worlds, shall be found to attend upon eminent examples of wisdom and of virtue.

The death of Captain Cook happened at OWHYHEE, one of the Sandwich-Islands, 978,285,600 moments ago this present year 1810, how many years have elapsed since this melancholy catastrophe took place, and what was the year of his decease? *Ans.* 31 years; and 1779 the year of his demise. *N. B.* Captain Cook was killed on Sunday, the 14th of February, at eight o'clock in the morning. See Chron. and Biog. Exer.

No. 505. PEACE.—Peace, as Erasmus remarks, is at once the mother and the nurse of all that is good for man; it shines upon human affairs like the vernal sun. The people, says an ingenious writer, have neither interest nor pleasure in the horrors of military execution

* See Chron. and Biog. Exer.

Peace is their element ; and they must either be frightened or cajoled into the conflict of offensive war ; for they know by melancholy experience, that, though it may be the gala of the prince, it is the grave of the subject*.

Oh ! first of human blessings and supreme,
 Fair PEACE ! how lovely, how delightful thou !
 By whose wide tie the kindred sons of men
 Like brothers live, in amity combin'd,
 And unsuspecting faith ; while honest toil
 Gives every joy, and to those joys a right,
 Which idle barbarous rapine but usurps.
 Oh, PEACE ! thou source and soul of social life,
 Beneath whose calm inspiring influence
 Science his views enlarges, art refines,
 And swelling commerce opens all her ports :
 Blest be the man divine who gives us thee !
 Who bids the trumpet hush his horrid clang,
 Nor blow the giddy nations into rage :
 Who sheaths the murderous blade ; the deadly gun
 Into the well-pil'd armoury returns !
 And, every vigour from the work of death
 To grateful industry converting, makes
 The country flourish, and the city smile.

THOMSON.

Some of the principal places at which treaties of pacification have been concluded are, Munster, in 1648 ; Nimeguen, in 1679 ; Ryfwicke, in 1697 ; Utrecht, in 1713 ; and Aix la-Chapelle, in 1748. How many years, months, weeks, days, hours, minutes, and moments, had intervened between the last-mentioned period and the year 1800, reckoning 13 months, 1 day, 6 hours, to the year ? *Ans.* 57 years, 741 months, 2,964 weeks, 20,805 days, 499,662 hours, 29,979,720 minutes, 1,798,783,200 moments.

No. 506. WAR.—War has been justly called “ The malady which infects princes.” There is nothing, says the truly great and good ERASMUS, more unnaturally wicked, more productive of misery, more extensively

* Malkin's Essays.

destructive,

destructive, more obstinate in mischief, more unworthy of MAN as formed by nature, much more of MAN PROFESSING CHRISTIANITY, than WAR. This common misfortune of the world causes a suspension of commerce, a decay of wealth, an increase of taxes, a state of impatience, anxiety, and discontent; multiplies houses of mourning, and fills a country with robbers, thieves, and violators of innocence. The flocks are scattered, the harvest trampled, the husbandman butchered, villas and villages burnt, cities and states, that have been ages rising to their flourishing state, subverted, and all places resound with the voice of lamentation. But none of these things appear to enter into the consideration of ambitious despots. They seem not in the least affected by

“ The widows’ tears, the orphans’ cries,
 “ The dead men’s blood, the pining maidens’ groans,
 “ For husbands, fathers, and betrothed lovers,
 “ That are swallowed up in their controversies.”

Most of the brutes live in concord with their own kind; move together in flocks, and defend each other by mutual assistance. Indeed, all kinds of brutes are not inclined to fight even their enemies. There are harmless ones like the hare. It is only the fiercest, such as lions, wolves, and tigers, that fight at all. A dog will not devour his own species; lions, with all their fierceness, are quiet among themselves; dragons are said to live in peace with dragons; and even venomous creatures live with one another in perfect harmony.—But to MAN, no wild beast is more destructive than his fellow MAN.

Hear it not, ye stars!
 And thou, pale moon! turn paler at the sound;
 Man is to man the forest, surest ill.

YOUNG.

View, says Erasmus; with the eyes of your imagination, savage troops of men, horrible in their very visages and voices*; men, clad in steel, drawn up on every side
 in.

* When the blast of war blows in our ears,
 Then imitate the act of the tyger;—

in battle array, armed with weapons, frightful in their crash and their very glitter; mark the horrid murmur of the confused multitude, their threatening eye-balls, the harsh jarring din of drums and clarions, the terrific sound of the trumpet, the thunder of the cannon, a noise not less formidable than the real thunder of heaven, and MORE HURTFUL; a mad shout like that of the shrieks of bedlamites, a furious onset, a cruel *butchering* of each other! — see the *slaughtered* and the *slaughtering*! — heaps of dead bodies, fields flowing with blood, rivers reddened with human gore! so deep is the tragedy, continues this illustrious writer, that the bosom shudders even at the feeble description of it, and the hand of humanity drops the pencil while it paints the scene*. That the dreadful picture is not too highly coloured, may be seen in the account of the recent battle of Marengo†, the detail of which, by Petit, must harrow up the soul of every reader that possesses the smallest portion of sensibility. The horrors of a field of battle after the butchering is over, are well described in the following lines:

O'erspread with shatter'd arms the ground appears,
 With broken bucklers, and with shiver'd spears,
 Here swords are stuck in hapless warriors kill'd,
 And useless there are scatter'd o'er the field.
 Here on their face, the breathless bodies lie;
 There turn their ghastly features to the sky.
 Beside his lord the courser press'd the plain;
 Beside his slaughter'd friend the friend is slain;
 Foe near to foe; and on the vanquish'd spread
 The victor lies; the living on the dead!
 An undistinguish'd din is heard around,
 Mixt is the murmur, and confus'd the sound:
 The threats of anger, and the soldier's cry,
 The groans of those that fall, and those that die.

HOOLE'S TASSO.

Stiffen the sinews, ummon up the blood,
 Disguise fair nature with hard-favour'd rage;
 And lend the eye a terrible aspect;
 Then set the teeth, and stretch the nostrils wide;
 Hold hard the breath, and bend up every spirit
 To his full height.

SHAKESPEARE.

* See Dr. Knox's Antipolemus.

† See the note to the death of Wolfe.

The unfortunate war which England maintained with America, a country which, during the unhappy contest, the celebrated Earl of Chatham emphatically styled "the glorious asylum of LIBERTY, of MANLINESS, and of VIRTUE," continued nearly 252,460,800 moments. How many years did it last? *Ans.* 8 years.

No. 507. GOOD KINGS.—

A tender MONARCH, like a shepherd swain,
 Humane in counsels, in designs humane,
 For public good alone prolongs his days,
 And counts his years by deeds deserving praise :
 Wreaths stain'd with blood he nobly scorns to wear ;
 But to his virtues future glory owes ;
 Such was that ancient, that heroic pair,
 AURELIUS, TITUS * ; thus to deathless honours rose.

THE LATE KING OF PRUSSIA.

It has been well observed, that while this monarch was only prince royal, he seemed to aspire at the glory of the Antonines, or a Marcus Aurelius : but no sooner was he seated on the throne than he took for his models an Alexander and a Philip, and at length raised himself into one of the most authoritative potentates of Europe. He was emulous of the surname of Great: he obtained it of the age in which he lived, and there is no doubt but it will be confirmed by posterity. See Chron. and Biog. Exercises.

TITUS has been dead 15,156,414 hours this present year 1810 : how long has that event taken place, and what was the year of his demise, reckoning 8,766 hours to the year? *Ans.* His death happened 1729 years ago ; and the year 81 was the period of his decease.

No. 508. DEATH OF LORD RUSSEL.—In the illustrious roll of martyrs to the cause of liberty, no name stands more conspicuously distinguished, or is written in fairer characters, than that of Lord RUSSEL, whose patriotism appears un sullied with any base alloy of personal resentment or interest.—So long as sensibility and

* See Quest. 87, p. 43.

gratitude are numbered among the affections of the human heart, so long shall we revere those who have dared to die for their country; and, with an almost superstitious devotion,

“ Kiss with joy the sacred earth

“ That gave a HAMPDEN * or a RUSSEL birth.”

Lord Ruffel was the son of the Duke of Bedford, and is universally spoken of as a nobleman of great and distinguished virtue. He was, on a trial by a packed jury, brought in guilty of high treason, for words only spoken in his hearing; a sentence which was considered, by all impartial men, as one of the most shameful instances of injustice ever known in England. It was pretended, that he was concerned in what was called the “ Rye-House Plot;” supposed by many to have been only an artifice of a venal court, to destroy the patriots.

Lord Ruffel was beheaded, or rather, as it has been aptly termed, *murdered* †, July 21, 1683, on a scaffold erected

* See Chron. and Biog. Exer.

† In the act passed by the parliament in 1689 ‡, which reversed the attainder of Lord Ruffel, his death is deemed a *murder*. In the course of this session, says Mr. Belsham, the attainders of Ruffel (whose execution is styled in the act a *murder*) and that of Algernon Sidney § (a name which may vie with the most celebrated in antiquity) were reversed; and their memories consecrated to everlasting fame, amid the sacred effusions of national grief and admiration.

Lord Ruffel lived many years in Southampton-House, on the site of which Southampton-Buildings are now erected. The King's-Head Tavern, facing Holborn, is, however, according to Pennant, part of the old mansion. When his Lordship passed by it in his way to execution, he felt a momentary bitterness of death in recollecting the happy moments of the place. He looked towards *Southampton-House*: the *tear* started into his eye, but he instantly wiped it away. See the Introduction to Lady Rachael Ruffel's Letters, octavo edition. These epistles, as Dr. Knox remarks, have been much admired by persons of taste and sensibility, both for their thoughts and their diction. Piety and conjugal affection, expressed in language, considering the time of its composition, so pure and proper, cannot but afford a fine example to the female aspirants after delicacy,

‡ In the glorious reign of William III.

§ See Chron. and Biog. Exer.

virtue,

erected in Lincoln's-Inn-Fields. How many years and days have elapsed between that period and the current year 1810, reckoning 365 days 6 hours to the year? *Ans.* 127 years; 46,386 days, 18 hours.

No. 509. **THE SANGUINARY MARY.**—In the reign of this cruel bigot England was filled with scenes of horror, which have ever since rendered the popish religion an object of great detestation; and which prove, says Hume, that no human depravity can equal revenge and cruelty, covered with the mantle of religion.

It is computed, that during the three years in which these shocking violences and barbarities were carried on, there were 277 persons brought to the stake; besides those who were punished by imprisonment, fines, and confiscations. Among those who suffered by fire were 5 bishops, 21 clergymen, 8 lay gentlemen, 84 tradesmen, 100 husbandmen, servants, and labourers, 55 women, and 4 children. The unprincipled wretches employed by the bloody queen on these occasions, were the bishops GARDINER and BONNER. The latter especially was a man of profligate manners, and a brutal character, who seemed to rejoice in the torments of the unhappy sufferers.

When persecuting zeal made royal sport
With tortur'd innocence in MARY's court,
Then BONNER, blythe as shepherd at a wake,
Enjoy'd the show, and danc'd about the stake.

COWPER.

It is well remarked by Hume, that human nature appears not, on any occasion, so detestable, and at the

virtue, taste, and whatever is excellent and laudable in the wife, the widow, and the mother. Such patterns in high life cannot fail of becoming beneficial in proportion as they are more known and better observed. Many of these letters are inserted in the second book of "Elegant Epistles," a work that contains a rich fund of rational entertainment. Lady Ruffel lived to a great age, revered almost as a saint herself, and venerated as the relict of the martyr to liberty and the constitution. She was the daughter and heiress of the virtuous Earl of Southampton, a nobleman of congenial merit with her ill-fated Lord. See Chron. and Biog. Exer. art. Ruffel, Lady.

same

same time so absurd, as in religious persecutions, which sink men below infernal spirits in wickedness, and below the beasts in folly. Very different was the conduct of the ancient *heathen* philosophers :

They, ever-candid, reason still oppos'd
To reason, and, since virtue was their aim,
Each by sure practice try'd to prove his way
The best. Then stood untouch'd the solid base
Of Liberty, the liberty of mind ;
For *systems* yet. and *soul-enslaving creeds*,
Slept with the *monsters* of succeeding times.
From *priestly* darkness sprung th' enlightening arts
Of fire, and sword, and rage, and horrid names.

THOMSON.

We cannot be particular in enumerating all the barbarities practis'd during the reign of Mary; but must refer our young readers to the histories of England, contenting ourselves with the bare mention of the renowned martyrs RIDLEY and LATIMER, prelates celebrated for learning and virtue, who suffered death in the flames, at Oxford, with inflexible constancy :

Against such cruelties
With inward consolations recompens'd ;
And each supported so, as did amaze
Their proudest persecutors.

MILTON.

These venerable Protestant* worthies received the honour of martyrdom 7,889,400,000 moments ago this present year 1810; how many years have intervened since; and in what year did the direful event take place?
Ans. 255 years ago; and the year 1555, the period in which it happened.

* The term Protestant originated in Germany, and the followers of Luther's doctrine were so distinguished, because, in 1529, they formally *protested* against the condemnatory decree of the Emperor Charles V. But of late it is become the general denomination of sects of every description, who, continuing to profess the Christian religion, reject the chief tenets of Popery. See the Rev. John Evans's Sketch, &c.

No.

No. 510. CENTURY.—A century, when applied to time denotes the space of a hundred years. Checkered with lights and shades, with sun-shine and with storms, with success and with misfortune, must be the history of every country within the long period of a hundred years. The seventeenth century was marked by many occurrences of an extraordinary kind in our own country;—the *civil wars* between Charles I. and his parliament, which terminated in the decapitation of that monarch *; the *act of uniformity*, by which 2,000 learned and pious ministers and their families were reduced to beggary †; the *plague*, which swept away thousands of the inhabitants of the metropolis ‡; the *fire of London*, which laid great part of the city in ruins §; the *Duke of Monmouth's rebellion*, on account of which hundreds were butchered by two infamous ruffians under the form, or rather, in some instances at least, without the form of law ||; and, finally, the abdication of James II. ¶. These are events not to be forgotten.

In the succeeding century, now recently elapsed, nothing equally pernicious has occurred. It may be just observed, that the national tranquillity was disturbed by two ill-concerted rebellions **, and the country disgraced by two daring riots ††. We have, moreover, to notice the separation of America from the parent state †††; the enormous increase of our national debt §§, and a long protracted calamitous war. It is, however, matter of consolation, that we are enabled to place in the opposite scale an extended commerce unknown to former periods, by which the country has arisen to opulence and dignity, and by which the sea-girt ||| sons of England have been enabled to maintain with undiminished lustre their proud resources, their warlike measures, and their national independence.

* See Quest. 105. † See Quest. 106. ‡ See Quest. 559.

§ See Quest. 381 & 445. || See Quest. 389. ¶ See Quest. 107.

** See Quest. 422, and Chron. and Biog. Exer. art. Balmerino, Kilmarnock, and Lovat.

†† See Chron. and Biog. Exer. June 6, 1780; and July 14, 1791.

††† See Quest. 449. §§ See Quest. 443. ||| See Quest. 450.

For naval glory also, Britain at this moment stands unrivalled in history. Ocean never before sustained any thing so magnificent and so formidable. British heroes have obtained splendid victories on every part of the globe*.

BRITONS, proceed, the subject deep command,
Awe with your navies every hostile land.
Vain are their threats, their armies all are vain:
THEY rule the balanc'd world, who rule the main.

THOMSON.

The progress too of science and the arts has been considerable; the discoveries of *Cook* † on the earth, and of *Herschell* in the heavens ‡, are pleasing subjects of record: nor should the extension of various manufactures by the ingenuity of a *Wedgwood* §, an *Arkwright* ||, and a *Boulton* ¶, pass unnoticed. The boundaries of chemical knowledge too have been widely extended, and its application to the purposes of civil, commercial, and domestic œconomy, happily illustrated, by the late venerable *Dr. Priestley* and others**. In medicine, the eighteenth century, though it had witnessed no other improvements, would be signalized by a discovery which is so intimately connected with the existence and happiness of society, as to deserve particular mention. The sagacity of *Dr. JENNER*, whose name on this account alone will ever be ranked with the benefactors of his species, has pointed out, in the inoculation of the *Cow-Pox*, practised already in some hundreds of thousands of instances with perfect success, a safe, mild, and effectual preventive of that most formidable foe to life and comfort the *Small-Pox*; the very extermination of which from among mankind is

* See Chron. and Biog. Exer. articles *Duncan*, *Elphinstone*, *Howe*, *Jarvis*, *Nelson*, *Rodney*, and *Warren*.

† See Index, and Chron. and Biog. Exer.

‡ See Exercises on the Globes, art. *Georgium Sidus*.

§ See Chron. and Biog. Exer.

|| See Chron. and Biog. Exer.

¶ See Quest. 418 and 510.

** See Exer. on the Globes, art. *Davy*.

thus.

thus brought within the compass of human agency. The powers of human intellect have been also exhibited in other inventions recently become subservient to the use of man.

“ Thro’ rocks deep bor’d, and over thirly hills,
 “ He leads the ductile flow-collected rills*;
 “ From earth’s low orb, he bids his car arise,
 “ And sails advent’rous thro’ the trackless skies †;
 “ Divided provinces converse by fight,
 “ And fame flies swifter than the winged light ‡.”

It may, moreover, be noticed as a gratifying circumstance in the present moral state of society among us, that a conviction of the importance and efficacy of education is become almost universal; and that the instruction of poor children in particular, is generally viewed as an object of much higher consideration than it was formerly. This most useful and beneficial bias of the public mind, as far as it concerns the education of the indigent, has been imparted solely by the unexampled zeal and unwearyed labours of JOSEPH LANCASTER, the founder of the Royal Free-School in the Borough-Road, now under the patronage of his MAJESTY and the Royal Family §. Mr. Lancaster’s first school was opened in St. George’s Fields in 1798.

It is flattering then to think that, varied as the picture has been, the eighteenth century has, on the whole, afforded just subject for eulogy, and may be pronounced favourable to human improvements and the best interests of mankind. To conclude, let us, upon the com-

* See Brindley, Chron. and Biog. Exer.

† See Balloon, Chron. and Biog. Exer.

‡ By means of the Telegraph, an instrument by which information may be almost instantaneously conveyed to a considerable distance. This is not a modern invention; it was not, however, till the French revolution, that the telegraph was applied to useful purposes; and M. Chappe first claimed this merit at Paris, 1793. See the Ency Brit Monsieur Amontons is said to have been the real inventor of Telegraphs. He was a native of Normandy, and died Oct. 11, 1705, aged 42 years.

§ See Quest. 527.

mencement of the new century, realize the perfections and government of the SUPREME BEING, who, "from seeming evil still educes good," and under whose superintendence every thing will be ultimately conducted to a happy conclusion.

How many hours, minutes, and moments, are in a century? *Ans.* 876,600 hours; 52,596,000 minutes; 3,155,760,000 moments.

THE RULE OF THREE DIRECT,

FROM its vast extent, both in common life and the sciences, is frequently called the GOLDEN RULE. It teaches, by having three terms given, to find a fourth that shall have the same proportion to the third, as the second has to the first.

R U L E.

First. State the question: that is, place the given numbers so that the first and third may be terms of supposition and demand, and the second of the same kind as the answer required.

Secondly. Bring the first and third numbers into the same denomination, and the second into the lowest name mentioned.

Thirdly. Multiply the second and third numbers together, and divide the product by the first: the quotient will be the answer to the question in the same denomination as that in which the second number was left.

ANOTHER RULE*.

Of the three terms given, place that third on which the question or demand lies; let the first term be that which is of the same name or quality with the third; and

* This easy rule, which is alike applicable to Direct and Inverse Proportion, is the production of my worthy friend Mr. Hodgkin, whose ingenious communications have greatly enriched the Fourth Edition of my Exercises on the Globes, See p. 60 of that work.

the remaining term the second. If the first and third terms are not in one and the same denomination, reduce them so; and if the second term is of more denominations than one, reduce it to its lowest; then consider whether the number sought should be more or less than the middle term; if it should be more, multiply the middle term by the greater extreme, and divide the product by the less; but if it should be less, multiply the middle term by the less extreme, and divide the product by the greater; and the quotient will be the answer to the question, in the same denomination the second term was left in.

N. B. When the nature of the question requires the first term to be the divisor, it is direct; and when the third, inverse.

EXAMPLES.

No. 511. What is the value of a cwt. of Lisbon sugar, at $5\frac{1}{2}d.$ per lb. ? *Ans.* £2 11s 4d.

No. 512. What is a chaldron of Newcastle coals worth, at $11\frac{1}{2}d.$ per bushel ? *Ans.* £1 14s 6d.

No. 513. At $10\frac{1}{4}d.$ per lb. what is the value of a firkin of Cambridge butter, weighing 56 lb. ? *Ans.* £2 9s.

No. 514. What is the value of a pipe of Spanish wine, at $10\frac{1}{2}d.$ per pint ? *Ans.* £44 2s.

No. 515. If 4 ells of Holland cost 19s. what are 32 ells worth ? *Ans.* £7 12s.

No. 516. If 3 yards of yorkshire cloth cost 18s. what are 34 yards worth ? *Ans.* £10 4s.

No. 517. If 9lb. of Jamaica sugar cost 6s. what is the value of 27 lb. $\frac{1}{4}$? *Ans.* 18s. 2d.

No. 518. If 7 lb. $\frac{3}{4}$ of Sumatra sugar cost 4s. what will 69 lb. $\frac{1}{4}$ come to ? *Ans.* £1 16s.

No. 519. If two ounces of tea purchased at Hull, cost 11d. what will 9 lb. come to ? *Ans.* £3 6s.

No. 520. If a servant's wages at York, be £12 12s. for 52 weeks, how much is that per week ? *Ans.* 4s 10d $\frac{3}{4}$.

No. 521. If 52 weeks wages at Sudbury, be £39, what would 14 weeks come to ? *Ans.* £10 10s.

No. 522. At £9 per annum, what do 10 weeks wages at Swansea amount to ? *Ans.* £1 14s. 7 $\frac{1}{2}$ d.

No.

No. 523. If a servant receives £2 12s. 6d. for 13 weeks wages at Theobalds, how much is that per annum? *Ans.* £10 10s.

No. 524. If 1 cwt. of East-India sugar cost £3 14s 8d. what is that per lb.? *Ans.* 8d.

No. 525. If a chaldron of coals be bought at Hackney, for £2, how much is that per bushel? *Ans.* 1s. 1½d.

No. 526. If a pipe of wine cost £27 0s. 9d. at Xeres, how much is that per gallon? *Ans.* 4s. 3¼d.

No. 527. LANCASTRIAN, OR ROYAL BRITISH SYSTEM OF EDUCATION. This incomparable plan of instruction is so denominated from its very ingenious inventor, JOSEPH LANCASTER, who commenced his unrivalled career of usefulness in 1798, by opening a school in the Borough-Road, Southwark, for the children of the poor. By this original and highly beneficial plan, ONE MASTER alone can educate A THOUSAND BOYS, in reading, writing, and arithmetic, as effectually, and with as little trouble, as *twenty* or *thirty* have been instructed by the usual modes of tuition. In consequence of this happy discovery, moreover, the expence of education is reduced to almost a comparative nothing. Schools of 300 children may be supported for seven shillings, and a greater number, for four shillings, *per annum*, each child. To the well-wishers of the rising generation, and the admirers of genius, it must be truly gratifying to find, that Mr. Lancaster is distinguished by the patronage of our beloved SOVEREIGN and the ROYAL FAMILY, who remit him handsome subscriptions annually in token of their approbation. By these means, and the liberal aid of a generous minded British Public, this most meritorious plan is rapidly extending through many parts of the United Kingdom; and the anxious desire expressed to Mr. Lancaster himself, by our VENERABLE MONARCH, will be fortunately realized, THAT EVERY POOR CHILD IN THE NATION SHOULD BE ABLE TO READ THE BIBLE.

The KING gave £200 to this institution in 1809; how many boys may be taught for a whole year for this sum, allowing 3s. 6d. to each boy, which is the sum calculated by Mr. L. for his own school? *Ans.* 1142.

N. B. Mr. Lancaster's Royal Free-School is situated near Belvidere-Place, Borough-Road, not far from the Obelisk; and is open for the inspection of the Public every afternoon (except Saturday) at three o'clock. See Chron. and Biog. Exer. 4th edit. p. 6. introduction; and July 10, 1809.

No. 528. ADVANTAGE OF MACHINERY.—Nothing can place the advantages that our age enjoys over the former, in a clearer light, than the following and other similar facts, respecting employing machinery in our manufactures. At Mr. Gott's cloth-manufactory at Leeds in Yorkshire, 35 people now perform the work, which fifteen years ago required 1634 to execute in a less perfect manner *!! See Quest. 437, p. 247, and 441, p. 251; and Chron. and Biog. Exer. art. Arkwright.

If 35 persons could do the work of 1634, how many could do the business of 4902? *Ans.* 105.

In Mr. Gott's manufactory, the whole process of making woollen cloths may be seen, from the sheering of the sheep to the packing-up of the finished cloth.

Month. Mag. July 1810.

No. 529. SPIKENARD.—Spikenard is an odoriferous plant, abounding in the island of Java † and other parts of the East-Indies. Its ointment was in high estimation among the ancients. The evangelist Mark, chap. xiv. ver. 3. relates, that while our Saviour sat at table in the house of Simon the leper in Bethany, a village near Jerusalem, a woman entered with an alabaster pot of ointment of spikenard, which having broken, she poured the contents on his head ‡. Supposing a Roman denarius or penny to be worth $\frac{1}{7}d.$ of our money, what was the value of this unguent, which ver. 5, was estimated at 300 such pence §? *Ans.* £9 7s. 6d. sterling.

* See Lord Lauderdale's Observations on the Edinburgh Review.

† See Chron. and Biog. Exer. Oct. 25, 1788.

‡ See Quest. 210, p. 98.

§ A Roman penny was the usual hire of a labourer for a day's work. See Matt. xx. 1—5.

N. B. Dr. Whitby has abundantly proved this, to have been a different story from that mentioned, Luke vii. 36. See Whitby, Chron. and Biog. Exer.

No. 530. MEAD.—This is a wholesome, agreeable liquor, prepared of honey and water*.

He shears his over-burden'd sheep ;
Or mead for cooling drink prepares,
Of virgin honey † in the jars.

DRYDEN.

Mead is a liquor of very ancient use in Britain, and some persons deem the best sort scarcely inferior to foreign wines. It is thought probable, that before the introduction of agriculture into our island, mead was the only strong liquor known to its inhabitants; and it continued to be a favourite beverage among them and their posterity, long after they had become acquainted with other liquors †.

If two gallons of mead be worth 4s. 9½d. in Wales, what is the value of an hoghead, wine measure?
Ans. £7 10s. 11½d.

No. 531. METHEGLIN.—Metheglin is a species of mead, prepared from honey boiled with water and fermented, and one of the most pleasant and general drinks that the Northern parts of Europe afford, and much used among the ancient inhabitants.

“ The juice of bees, not Bacchus §, here behold,
“ Which British bards were wont to quaff of old;
“ The berries of the grape with furies swell ¶,
“ But in the honeycomb the graces dwell.”

From

* Chaucer and Milton use the word meaths to signify sweet drinks like meads.

† Virgin honey is that deposited in clean new cells, which, when first formed, is of a pure white colour.—Virgin oil is that which runs from the olive without being pressed. See *Quest.* 210, p. 98.

‡ See the *Ency. Brit.* art. Feast.

§ See Exercises on the Globes.

¶ Alluding to a saying which the Turks have, “That there lurks a devil in every berry of the vine:” The Mahometan religion prohibits

From the custom of drinking a beverage made with *honey* for thirty days feast after a grand wedding, comes the expression *honey-moon*, which is a Teutonic* phrase, not to be found in the warm wine latitudes. Attila, king of Hungary, notorious for the horrible ravages that he committed both in Gaul and Italy, drank so freely of hydromel (a sort of mead or metheglin, as the word imports) on his wedding-day, that he was found suffocated at night †; an event which occurred in 453, and with him expired the empire of the Huns.

If a hoghead of Metheglin, wine measure, made at Denbigh, be worth £7 10s. 11½*d.* what is the value of two gallons? *Ans.* 4*s.* 9½*d.*

No. 532. HONEY.—Honey is a sweet vegetable juice, collected from the flowers of various plants, by “nature’s confectioner,” the “skilful BEE.” Of the œconomy of these insects, alike remarkable for industry and art, naturalists relate wonders. The moral virtues have been all, at one time or other, attributed to them; and they have been particularly celebrated for their prudence, industry, mutual affection, unity, loyalty, public spirit, sobriety, and cleanliness. Certain it is, that the industry and activity of bees in their domestic labours afford a very instructive and amusing spectacle; *all* are busily engaged in their several departments; whilst some are employed in gathering honey or wax, others repair decayed combs; some carry out the dead, and cleanse the hives; others, again, keep guard upon the floor, &c.

And sad-ey’d justice, with his surly hum,
Delivers o’er to executors pale
The lazy yawning drone.

hibits the use of wine; but Mr. Dallaway, in his account of Constantinople, avers, that the use of the intoxicating drug opium † is on the decline, and that of wine on the increase, in the Turkish dominions.

* The Teutones were an ancient people that inhabited the Northern parts of Germany.

† See Mrs. Piozzi’s Retrospection, vol. i. p. 133. Hardicanute died at Lambeth in 1042 at a wedding-dinner. See Queft. 493, p. 302.

————— So work the honey bees;
Creatures, that by a rule in nature teach
The art of order to a peopled kingdom.

SHAKSPEARE.

These active and useful insects have also been noticed by another of our great poets, who, after expatiating on the beautiful face of nature in spring, when the fields and meadows are

“ Full of fresh verdure and unnumber'd flowers”—

subjoins, that

Here their delicious task the fervent bees,
In swarming millions, tend; around, athwart,
Thro' the soft air the busy nations fly,
Cling to the bud, and with inserted tube
Suck its pure essence, its ethereal soul;
And oft' with bolder wings they soaring dare
The purple heath, or where the wild thyme grows,
And yellow load them with the luscious spoil*.

THOMSON.

The honey of Hybla, on the East coast of Sicily, and of Hymettus, a mountain of Greece, near Athens, was reckoned by the ancients the best in the world.

Sweet as honey of Hybla†.

SHAKSPEARE.

Hymettus spread, amid the scented sky,
His thymy treasures to the labouring bee.

THOMSON.

The honey of Minorca, an island in the Mediterranean, of Narbonne, in the department of Aude, and late province of Languedoc, is deemed excellent: and that of Hampshire is considered as the best produced in England‡.

Honey,

* See a further account of bees in the Exercises on the Globes, art. Apis.

† Dr. Young styles friendship, “ Hyblean Bliss.”

‡ Honey collected from some plants is intoxicating and poisonous to men; from others it is hurtful to the bees which collect it; and from some flowers it is so injurious or disagreeable, that they do not collect it. See DAWIN'S Temple of Nature, p. 63.

Honey, considered as a medicine, is a very useful detergent and aperient, powerfully dissolving viscid juices, promoting expectoration, and, in some instances, has been remarkably efficacious in asthmatic cases. See the *Ency. Brit.*

The honey of Narbonne, says Mr. Townsend, is delicate in its flavour, and beautifully white! It was sold in that city for fifteen pence a pound. *Journey through Spain, &c. vol. i. p. 82.*

What is the value of .2 cwt. 1 qr. 27 lb. 12 oz. 15 drachms, of honey, at the price above mentioned? *Ans. £17. 9s. 9d. $\frac{3}{4}$.*

No. 533. WOOL.—Wool is the hair or covering of sheep; which, being washed, shorn, dressed, combed*, spun, woven, &c. makes divers kinds of stuffs, cloths, &c. for apparel and furniture. Wool is very justly held to be the grand staple commodity of this kingdom, since the annual value of exported goods of that manufacture is estimated at nearly £4,000,000 sterling! Dr. Anderfon, in a memorial subjoined to the "Report of the Committee of the Highland Society," proves, from indisputable records, that from the earliest times down to the reign

The English who attended Edward I. to the Holy Land in the crusades, died in great numbers, as they marched in June; which was ascribed to the excessive heat, and their intemperate eating of fruits and honey: a circumstance which illustrates the remark of Solomon, Prov. xxv. 27.

BURDER, ii. 222.

In the brilliant retreat of the TEN THOUSAND*, a very singular accident befel them, near the Colchian mountains. Finding a number of bee-hives, and eating greedily of the honey, they were suddenly seized with violent vomitings and fluxes; so that those who were least ill seemed like drunken men, and the rest either furiously mad or dying. The earth was strewed with their bodies as after a defeat; not one of them, however, died, and the distemper ceased the next day about the same hour it began.

GOLDSMITH'S Hist. of Greece. chap. x.

* The art of combing wool is said to have been discovered by Bishop Blaize. See Chron. and Biog. Exer.

* See Quest. 439, p. 249.

of Queen Elizabeth, the wool of Great-Britain was not only greatly superior to that of Spain, but was accounted the finest in the universe, and that even in the times of the Romans, a manufacture of woollen cloths was established at Winchester for the use of the emperors.

Thomson, after describing, in his usual happy manner, the process of sheep-shearing, exclaims,

A simple scene! yet hence BRITANNIA sees
Her solid grandeur rise! hence she commands
Th' exalted stores of every brighter clime,
The treasures of the sun without his rage:
Hence, fervent all, with culture, toil, and arts,
Wide glows her land: her dreadful thunder hence
Rides o'er the waves sublime, and awes the world*.

Admitting, according to the lowest computation, that England maintains 12,000,000 of sheep, and estimating the wool of each fleece †, on an average, at 4s. 8½d. what is the yearly value of English wool? *Ans.* £2,825,000.

* See Century, Index; and Exer. on the Globes, art. Robur Caroli.

† Two pounds and a half are reckoned a good produce from a sheep at the time of shearing. Every eleven wether, says the clown in the *Winter's Tale*, tods; *i. e.* will produce a tod, or 28 lbs. of wool. The best Herefordshire wool generally bears, we are told, the highest price of any produced in England. Leominster in this county has been from time immemorial a crowded mart for wool, and upon this account it has deserved and obtained the poetic praises both of Drayton and Philips. It was also very anciently (1550) celebrated in Barclay's Eclogues:

England hath clothe, and Boreus* hath store of wine,
Cornwall hath tinnen, and Lymster wolles fine.

ECL. iv.

Lempster's ore ‡

That with the silk-worm's web for fineness doth compare.

POLY-OLE. Song 7.

Can Tmolus' † head

Vie with our saffron odours §, or the fleece

Æotic or finest Tarentine, compare

With Lempster's sicken wool †.

CIDER, B. I. 581.

* See Quest. 481, p. 229. † See Quest. 331, p. 69.

‡ An old word denoting the outward part of any thing.

AA's Dic.

§ Tmolus was a mountain in Lydia, famous for odoriferous flowers, wholesome air, and the longevity of the neighbouring inhabitants.

¶ See Quest. 359, p. 168.

No. 534. WOOLLEN MANUFACTURE.—The woollen manufacture makes the principal article of our foreign and domestic trade. In 1769, and the two succeeding years, the value of woollens exported from England amounted to upwards of £13,000,000 sterling.

—Pursue,
Ye sons of Albion*! with unyielding heart,
Your hardy labours: let the sounding loom
Mix with the melody of every vale;
The loom, that long-renown'd wide-envy'd gift
Of wealthy Flandria, who the boon receiv'd
From fair Venetia; she from Grecian nymphs;
They from Phenicé, who obtain'd the dole
From old Egyptus. Thus around the globe
The golden-footed sciences their path
Mark, like the sun, enkindling life and joy,
And follow'd close by ignorance and pride,
Lead day and night o'er realms. Our day arose
When ALVA's† tyranny the weaving arts
Drove from the fertile vallies of the Scheld.

DYER.

This important branch of commerce received considerable improvement in the reign of Edward III. by means of persons whom that monarch invited from the Netherlands in the year 1331; but what contributed most of all to the perfection of this valuable manufacture, was the just-mentioned emigration of the Protestants from that country.

“ Brethren, by impious persecution driven,
“ Who arm'd their breasts with fortitude to try
“ New climes beyond the baneful power of tyrants.”

* Albion was the ancient name of Great-Britain.

† The Duke of Alva was appointed governor of the Netherlands by the tyrant Philip II. of Spain. During his administration, nothing was heard of but confiscation, imprisonment, exile, torture, and death. And on his departure from that country, in 1574, this unfeeling despot boasted, that, during the course of his administration, he had delivered above 18,000 persons into the hands of the executioner.

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HUME, VOL. V. P. 217 -
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These fugitives, being well received by Queen Elizabeth, established several large manufactures at Norwich, Colchester, Sandwich, Southampton, &c. See *Rapin*, vol. vii. p. 322. also vol. xi. p. 321.

It is computed, that 1,500,000 people are employed in the British woollen manufacture. Now, supposing each of these to earn, one with another, 6*d.* per working day, how much will their labour amount to in a year? *Ans.* £11,737,500.

No. 535. TEA.—Tea is an evergreen plant or shrub indigenous to China in Asia. It is a received opinion, that the green and bohea tea grows upon the same shrub; but that the latter admits of some kind of preparation, which removes its raking qualities, and gives it a deeper colour. This fashionable commodity was first brought into Europe by the Dutch in 1610, and into England by Lord Arlington and Lord Offory, from Holland, about the year 1666, at which period it was sold for 6*s.* a pound, though it did not cost more than 3*s.* 6*d.* a pound in Batavia. But it appears, that before this time, the drinking of tea, even in public coffee-houses, in this country, was not uncommon; for in 1660, a duty of 8*d.* per gallon was laid on the liquor made from it, and sold in all coffee-houses. The present consumption of tea is immense; it being computed by Zimmerman, in his political survey of Europe, that there are no less than 189,000,000 lb. exported annually from China into Europe. This respectable writer is, however, supposed to be misinformed in this particular; for persons conversant in the tea trade affirm, that the Britannic kingdoms consume nearly as much tea as all Europe besides; and 24,000,000 lb. are stated to be the greatest quantity ever imported into the British dominions by the East-India Company in one year; and it is conjectured that very little is at present smuggled*. Valuing the whole quantity

* That tea is pernicious to health, is disputed by physicians: Quincy commends it as an elegant and wholesome beverage; Cheyne condemns it, as prejudicial to the nervous system. Bishop Burnet, for many years, drank sixteen large cups of it every morning, and never complained that it did him the least injury. Dr. Johnson was
a lover

tity legally imported at £6,900,000 sterling, what is that per lb. ? *Ans. 5s. 9d.*

N. B. Fine teas fell for 20d. or 2s. per lb. in China.

NO. 536. ADULTERATION OF TEA.—The demand for tea being now so great, the Chinese, it is said, find it necessary, or at least profitable, to adulterate it, by an occasional admixture of a particular kind of moss. But there is good reason to believe, that the deterioration of tea is not confined to China. It is practised, and often with too much success, among ourselves. Mr. Twining, a considerable tea-dealer in London, published a pamphlet some years ago, in which he has exposed this infamous

a lover of tea to an excess hardly credible. He described himself as a hardened and shameless tea-drinker, who, for many years, diluted his meals with only the infusion of this fascinating plant; whose kettle had scarcely time to cool; who, with tea amused the evening, with tea soiced the midnight, and with tea welcomed the morning. If this beverage were generally pernicious, its effects must certainly be evident in China, where all ranks of people freely partake of it; yet so far from being thought hurtful in that country, it is there in high estimation; and the infrequency of inflammatory diseases is ascribed solely to the liberal use of tea. It has been justly remarked, that tea is an antidote against intemperance; and that he who relishes the one seldom runs into the other. Some even maintain, that tea has contributed more to the sobriety of this nation than the severest laws, the most eloquent harangues of Christian orators, or the best treatises of morality. That it may be hurtful to some constitutions in particular circumstances, its advocates admit; but they contend, that the nervous disorders so often attributed to tea, are rather owing to hereditary diseases, to want of exercise, and to irregularity in food or sleep, than to this pleasant liquid. In a word, weak tea when drank too hot may enervate; and when very strong, may be equally pernicious, by affecting the head or stomach. But when it is taken in moderation, and not too warm, with a large addition of milk, it will seldom prove hurtful, but, on the contrary, salutary. After study or fatigue, it is a most refreshing and grateful repast; it quenches thirst, and cheers the spirits*, without heating the blood; and the delightful society in which we often partake of it, is no inconsiderable addition to its value; for whatever affords rational pleasure to the mind, will always contribute to bodily health. Some good observations on this subject, may be seen in the *Month. Mag.* for OCT. 1808, p. 1.

* The muse's friend tea does our fancy aid,
Repressing vapours which the brain invade.

Q3

WALKER

traffic. The smouch for mixing with black teas is made of the leaves of the ash-tree*, prepared for this purpose by different modes. The quantity manufactured at one village, and its vicinity, is supposed to have been about 20 tons in a year. One man acknowledged to have made six hundred weight in every week for six months together. The fine sort was sold at four guineas per hundred weight, and the coarse at two guineas. Elder buds are manufactured in some places to represent fine teas. For the honour of human nature, we hope such nefarious commerce as this is not very common; those concerned in it deserve most exemplary punishment. The only way, as Mr. Twining justly remarks, to escape this adulterated tea, is never to purchase tea from those who offer it to sale at lower prices than genuine teas can be afforded; but always to apply to persons of known character and respectability.

What was the value per pound of each sort of the above-mentioned deceptive article; and supposing two-thirds of the entire quantity made in the 24 weeks to have been of the inferior quality, and the remainder, the fine sort, what did the arch impostor receive for the whole? *Ans.* 9*d.* a pound the fine sort; 4½*d.* a pound the coarse sort; and the value of the whole was £403 4*s.* sterling.

No. 537. CHEESE.—Cheese is a kind of food made by pressing the curd of coagulated milk, and suffering the mass to dry. Milk is coagulated by rennet, or rennet, a liquor made by steeping the maw or stomach of a calf in warm water, in which spices and aromatics have been

* In the North of Lancashire they lop the tops of these trees to feed the cattle in Autumn, when the grass is on the decline. Its wood is hard and tough, and is much used to make the tools employed in husbandry. The ashes of the wood afford a good pot-ash; and the bark is used in tanning calf-skins. In the church-yard of Lochaber, (a district in the shire of Inverness, Scotland), the trunk of an ash-tree measured, at five feet from the surface of the ground, 58 feet in circumference.

ENCY. BRIT. art. Fraxinus.

† See Exer. on the Globes, art. Robur Caroli.

previously infused. Bacon, in his Natural History, observes, that the milk of the fig has the quality of rennet*.

The too free use of cheese is condemned by physicians, who maintain, that it is a food fit only for the laborious, or those whose organs of digestion are strong. In England, cheese is made entirely from cow's milk; but in some places they make it of ewe's milk; and in others, a certain proportion of ewe or goat's milk is added, to that of the cow. The Laplanders make a sort of cheese of the milk of the rein-deer. England has long been noted for the excellency of its cheese. Camden and others suppose, that we learnt the art of making it from the Romans. Cheddar in Somersetshire, and Stilton in Huntingdonshire, are famed for an exquisite sort; the latter being usually called the *Parmesan* of England, and sells for sixteen or eighteen pence per pound. Parma, in the North of Italy, is renowned through all Europe for its excellent cheese, as our well-known ballad bears testimony:

“ Let Lodi or Parmesan bring up the rear.”

Lodi is near the city of Parma, and the adjacent district is sometimes denominated the *Lodesant*. Much of the cheese called *Stilton Cheese*, is made in the neighbouring counties. The counties of Wilts, Gloucester, Warwick, and Cheshire, make immense quantities of cheese†. From this last county Chester alone annually exports 22,000 tons, 14,000 of which are sent to London.

The average annual produce from one animal in Cheshire is stated at 300 lbs. The most common size of

* See Quest. 151, p. 79.

† At Lodi, Buonaparte gained one of his most splendid victories: See Chron. and Biog. Exer.

‡ The following places are also noticed on account of their cheese. Cottenham near Cambridge; Banbury in Oxfordshire; Dunlop in Ayrshire, Scotland; Gruyers in the Canton of Fribourg, Switzerland; Edam, North of Amsterdam in Holland; Cex, in the department of Ain, and Meaux, in the department of Seine and Marne, France. The cheese of the last-mentioned place is known by the appellation of “Fromage de Brie;” a district in the environs of Meaux, not far from Paris.

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each cheese is sixty pounds; a weight susceptible of every excellence to be found in the cheese of this county; but some weigh 140 lbs. and in May 1792, Mr. Thomas Heath, farmer near Nantwich, (which is situated in a luxuriant vale on the banks of the Weaver) made a cheese that weighed 192 lbs. and measured two feet four inches over, and twelve inches in thickness. It was intended as a present to His Majesty. The colouring of cheese should be done with Spanish Arnotta*; but, from the dearth of this article, an adulterated colouring is often substituted. See the Beauties of England, vol. ii.

Supposing the Chester cheese-factors to receive $9\frac{1}{4}d.$ † per lb. on an average, what is the value of the whole quantity exported? *Ans.* £1,950,666 13s. 4d.

No. 538. CYDER, or CIDER, an excellent drink made of the juice of apples‡, especially of the more curious table kinds.

The pippin, burnish'd o'er with gold, the moyle,
Of sweetest honey'd taste, the fair permain,
Temper'd, like comeliest nymph, with red and white.

^ See PHILIPS's *Cider*, line 460, &c.

Herefordshire and Devonshire are famous for cider; but much of that made in the latter county is of a harsh,

* Arnotta, or Anotta, employed in dyeing an elegant red colour, is prepared from the pellicles or pulp of the seeds of the Bixa, or Roucou, a tree common in the warm parts of South America. The wax or pulp in which the seeds are enclosed is a cool, agreeable, rich cordial, and has been long in use among the Indians and Spaniards in America, who still mix it with their chocolate, both to heighten the flavour and raise the colour. See Chocolate, Index.

† The best Cheshire cheese now (1810) sells in London for a shilling or thirteen pence a pound.

‡ The blossoms of this fruit perfume and purify the circumambient air: a circumstance which some medical writers imagine conduces greatly to the health and longevity for which the natives of Herefordshire have been long famous. As a proof of their title to this character, the following instance has been adduced. When King James the first made a progress into this county, a dance called the Morice was performed in the presence of his Majesty, by ten men and women whose united ages amounted to upwards of a thousand years. See Chron. and Biog. Exer. art. May.

four, and watery nature, to which qualities is commonly imputed a kind of severe colic prevalent among the lower class of people*. The Herefordshire cider is so exquisite, that when the Earl of Manchester was ambassador in France, he is said frequently to have passed this beverage on their nobility for a delicious wine.

Some ciders have by art or age unlearn'd
 Their genuine relish, and of sundry vines
 Assum'd the flavour: one sort counterfeits
 The Spanish product; this to Gauls has seem'd
 The sparkling nectar of Champaign; with that
 A German oft has swill'd his throat, and sworn,
 Deluded, that imperial Rhine † bestow'd
 The gen'rous rummer; whilst the owner, pleas'd,
 Laughs inly at his guests, thus entertain'd
 With foreign vintage from his cider-cask.

PHILIPS.

There is a spirituous liquor drawn from cider by distillation, called cider-spirit, to which the dealers in spirits can give the flavour of some other kinds, and sell it under the assumed names, or mix it in large proportion with foreign brandy, rum, or arrack, in the sale, without any danger of a discovery of the cheat ‡. The best cider, of all the kinds, is said to be made from the red-streak apple, grafted upon the jennet-moyle stock.

Let ev'ry tree in ev'ry garden own
 The red-streak as supreme, whose pulpous fruit
 With gold irradiate and vermilion shines.
 Hail Herefordian plant! that dost disdain
 All other fields.

PHILIPS.

Other ciders have various degrees of potency, and a great variety of flavour.

* Dr. Aikin's England Delineated.

† See Quest. 471, p. 282.

‡ See Quest. 469, p. 280.

§ Dr. Rees's New Cyclop. and

Q. E. D. Brit.

—From —

—From Silurian* vats, high-sparkling wines
Foam in transparent floods; some strong, to cheer
The wint'ry revels of the labouring hind,
And tasteful some, to cool the summer hours.

THOMSON.

If a hoghead of cider containing 110 gallons† be purchased, at Exeter, for £4 10s. 6d. and retailed at 1½d. a pint, what will be gained by the sale? *Ans.* £1 17s. 10d.

No. 539. PERRY.—Perry is a pleasant beverage made from pears.

What tho' the pear-tree rival not the worth
Of Ariconian‡ products? yet her freight
Is not contempt'd, yet her wide branching arms
Best skreen thy mansion from the fervent dog §,
Adverse to life. The wintry hurricanes
In vain employ their roar, her trunk unmov'd
Breaks the strong onset, and controls their rage;
Chiefly the Bosbury, whose large increase
Annual in sumptuous banquets claims applause:
Thrice acceptable bev'rage! could but art
Subdue the floating lee, Pomona's self
Would dread thy praise, and shun the dubious strife.

PHILIPS.

If two hogheads of Worcestershire perry, wine measure, were bought for £10 10s. and bottled off into quart bottles, how must they be sold per dozen to gain £3 13s. 6d. by the sale? *Ans.* 6s. 9d. per dozen.

No. 540. BOOKS CONSUMED AT EPHEBUS.—A book is the general name of almost every literary compo-

* Herefordshire formed a considerable part of the ancient Siluria.

† Cider is retailed by wine-measure; but often bought in vessels called hogheads, which contain 110 or 112 gallons each.

‡ Ariconium was a spacious city in the time of the Romans. It is supposed to have been situated about 3 miles W. of Hereford, and to have been destroyed by an earthquake; a calamity particularly noticed by Philips, in his poem entitled "Cider," line 173, &c.

§ See Exercises on the Globes, art. Canicula.

sition;

sition; but, in a more limited sense, is applied only to such compositions as are large enough to make a volume. As to the origin of books, or writings, those of Moses are undoubtedly the most ancient that are extant. Of profane books, the oldest are Homer's poems. Several sorts of materials were used formerly for making books: plates of lead and copper, the barks of trees, bricks, stone, and wood, were the first materials employed to engrave such things upon as men were willing to have transmitted to posterity. The leaves of the palm-tree and the Egyptian papyrus were afterwards used. By degrees wax, then leather, was introduced, especially the skins of goats and sheep, of which, at length, parchment was prepared: then linen, silk, horn, and lastly paper, came into use. The first books were in the form of blocks and tables; but as flexible matter came to be wrote upon, it was found more convenient to make books in the form of rolls. These were composed of several sheets fastened to each other, and rolled upon a stick; the whole making a kind of column or cylinder*.

Books have been termed the "remedies of the mind." The learned Dr. Parr, speaking of his own library, soon after that of his friend Dr. Priestly had been destroyed by the savage fury of an ignorant and bigoted rabble †, observes, that he collected his own books with indefatigable industry, and in their purchase had expended more than half the produce of more than twenty years unwearyed labour; that he considered them as the pride of his youth, the employment of his riper age, and, perhaps, the best solace of declining life. At the head of all the pleasures which offer themselves to the man of liberal education, says Dr. Aikin, may confidently be placed that derived from books. In variety, durability, and facility of attainment, no other can stand in competition with it; and even in intensity it is inferior to few. In books, we have the choicest thoughts of the ablest men in their best dress. We can, at our pleasure, exclude dulness and impertinence, and open our doors to wit and good

* See on this subject Dr. Rees's

† See Chron. and Biog. Exer.

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ense alone*. When the books of Labienus were burnt at Rome, he would not survive their loss; but, shutting himself up in the tomb of his ancestors, pined away, and was buried alive. Dr. Johnson advised young people never to be without a book in their pocket, to be read at bye-times when they had nothing else to do; observing at the same time, that much of his own knowledge had been thus obtained. A retentive memory, he subjoins, will do much, and a person will have strange credit given him, if he can but recollect striking passages from different books, and bring his stock of knowledge artfully into play†. With views probably similar to those of Dr. Johnson, we find the Ethiopian grandee or officer making the best use of his time, by reading in his chariot, during a journey‡; and it is a curious fact, that the late justly-celebrated Dr. Darwin, of Derby, could, as he assured Mr. Evans, not only read but write in his carriage; the greater part of his numerous and valuable writings having been actually penned as he visited his patients§.

In so illustrious and powerful a manner did Christianity, at its first promulgation, flourish and triumph over all considerations of honour or interest; such an amazing effect had it upon the lives and morals of its early converts, that they not only relinquished their former abandoned pursuits, and forsook their sensual and immoral practices, but resigned every domestic endearment, waved every secular advantage, and took joyfully the spoiling of their goods, whenever any of these came in competition with their duty. A striking instance of the readiness with which sacrifices were made at the altar of Christianity, is afforded in the penitent sorcerers of Ephesus, near Smyrna in Asia, who, in consequence of the preaching of St. Paul, and the miracles that God enabled him to work, brought all the books they had which treated of the idle and absurd

* Letters to his Son, p. 290.

† Mrs. Piozzi's Anecd.

‡ See Acts, chap. viii.

§ See the Monthly Visitor for Oct. 1800, p. 172.—Dr. Lettson, it is well known, carries on most of his extensive literary correspondence in his chariot, as he is driven through the streets on visits to his patients.

Science of magic, and publicly burnt them. The value of these books was no less than 50,000 pieces of silver*, which are computed by Dr. Benson to be worth £7,500; by another critic £6,250; by Dr. Prideaux £1,875; by Arbuthnot £1,613 11s. 8d. and by Clark £1,500 sterling. See Dr. Doddridge's *Fam. Exp. Pyle's Paraphrase, and Clark's Annot. on the Bible.*

What is the value of each piece of silver, according to these several calculations? *Ans.* 3s.—2s. 6d.—9d.—7½d.

No. 541. ROMAN LUXURY.—It has been often remarked, that a hospitable and splendid table is highly commendable among the opulent; it indicates a greatness of mind, a becoming liberality of nature, and serves the cause of the poor and needy: but when feasting degenerates into excessive luxury and insupportable expence, the authors never fail justly to incur the charges of prodigality and folly. To this kind of excess some of the ancient Romans were notoriously addicted, as appears from the following relation: When the servants of LUCULLUS, a famous Roman commander, were apprised of the apartment in which he designed to sup, they regulated the order, quantity, quality, and expence of the banquet accordingly. The charges of an accidental entertainment, made by him for CICERO and POMPEY, because ordered in the *Apollo*, amounted to the enormous sum of 50,000 drachms; hence, to sup or dine in the *Apollo*, has become a sort of proverbial phrase to denote a superb entertainment, or an immoderately expensive meal †.

Valuing

* See Acts xix. 19.
 † Very different was the conduct of Socrates. Though the table of this eminent man was only supplied with simple fare, he did not scruple to invite those of superior rank to partake of his meals. When his wife †, upon some such occasion, expressed her dissatisfaction at being no better provided, he desired her to give herself no concern; for if his guests were wise men, they would be content with whatever they found at his table; if otherwise, they were unworthy of notice. Whilst others, says he, live to eat, wife eat to live. He found by experience, that temperance is the preserver of health. It was

‡ See Chron. and Biog. Exer. art. Xantippe.
 † It is recorded of Hannibal, that he took nature, not to delight his appetite.

substance merely to content
 wife

Valuing two drachms at 1s. 1½d. what was expended in Lucullus's splendid supper? *Ans.* £1,406 5s.

No. 542. PRAISE OF SERVANTS THE HIGHEST PANEGRIC.—Servant is a term of relation, signifying a person who owes and pays a *limited* obedience for a certain time to another, in quality of master, who is accountable for the conduct of his servant in the general course of business, whether he acts by express or implied command. The kindness of the centurion, mentioned in Luke's gospel, to his *slave*, and the anxiety he shewed to get him healed, was suitable to the character of a humane master, and exhibits an excellent pattern of duty, very proper for the imitation of *Christian* masters, among whom, says a commentator, it is but too common, to use their slaves and dependants as if they were not creatures of the same species with themselves, but beings of an inferior order. We may learn, from the tenderness which the apostle Paul

owing to his perfect regularity in this respect, that he escaped infection in the midst of the plague, which proved so fatal to his fellow-citizens.

Enfield's History of Philosophy.

The supplies of the table of Zeno, the founder of the sect of the Stoics*, consisted only of figs, bread, and honey; notwithstanding which, he was frequently honoured with the company of great men. His dress also was plain, and all his expences frugal. He was a native of Citium in the island of Cyprus, where he was born about 300 years before Christ.

Mankind in general, since the improvement of cookery, eat, says Dr. Franklin, about twice as much as nature requires. Suppers are not bad if we have not dined; but restless nights naturally follow hearty suppers after full dinners. Indeed, as there is a difference in constitutions, some rest well after these meals; it costs them only a frightful dream and an apoplexy, after which they sleep till doom's day. Nothing, continues the Doctor, is more common in the newspapers, than instances of people, who, after eating a hearty supper, are found dead in bed in the morning. I avoid, said Mr. Pennant, the meal of excess, a supper; and my soul rises with vigour to its employ, and, I trust, he adds, does not disappoint the end of its Creator.—The sleep of the labouring man is sweet, whether he eat little or much: but the abundance of the rich will not suffer him to sleep. ECCLESIASTES, v. 12.

* The followers of this philosopher were called Stoics from a Greek word denoting porch, because he delivered his lectures in the most famous portico in Athens.

expresses about the poor *slave* Onesimus, to interest ourselves in the happiness of those whose rank is far beneath our own; and that it is our duty to make the situation of our servants easy by a kind and friendly treatment*. The Spanish grandees, it is said, never turn away their servants because they are old and incapable of labour, but keep them as long as they live, and allow them a pension for the services they did in their youth; a benevolent custom, that might be advantageously imitated by the rich of all countries. It is recorded of Pliny† that he treated his domestics as his friends, and lamented their deaths as if he had been their parent. No less exemplary as a master was the Earl of Corke; and even his domestics of the brute creation had their labours rewarded with tenderness, and their lives prolonged by attention ‡.

The following observations of Dr. Johnson, respecting menial domestics, seem to merit particular attention. "As it is at home that every man must be known by those who would make a just estimate either of his virtue or felicity; for smiles and embroidery are alike occasional, and the mind is often dressed for show in painted honour and fictitious benevolence; and as the most authentic witnesses of any man's character are those who know him in his family, and see him without any restraint, or rule of conduct, but such as he voluntarily prescribes to himself; the highest panegyric that private virtue can receive is the PRAISE OF SERVANTS. For, however vanity or insolence may look down with contempt on the suffrage of persons undignified by wealth, and unenlightened by education, it very seldom happens that they commend or blame without justice." *Rambler*, No. 68.

Great minds, says Mr. Southey, are conspicuous in little actions, and these fall more under the inspection of domestics than of the world. Would you know the

* See St. Paul's admirable Epistle to Philemon; which, as Doddridge remarks, were it to be considered in no other view, than as a mere *human* composition, must be allowed a master-piece of the kind; combining at once delicacy of sentiment, consummate address, and genuine politeness.

† See Chron. and Biog. Exer.

‡ See the Earl of Corke and Orrery's Letters from Italy, 1754, 1756. See also Horfe, Index.

real character of a man; observe him when he speaks to a servant; mark his manners and the tone of his voice: watch the countenance of the servant, and you can hardly be erroneous in your judgment. *Travels*, p. 58.

If a servant's wages, at Torbay, be £12 12s. per annum, how much is that per week and per day? *Ans.* 4s. 1cd. $\frac{1}{2}$ $\frac{1}{2}$ per week, and 8 $\frac{1}{4}$ d. $\frac{3}{8}$ $\frac{1}{3}$ per day.

No. 543. BRANDY.—Brandy is a spirituous and inflammable liquor, extracted from wine and other liquors* by distillation. The brandy made in France is esteemed the best in Europe. The chief French brandies are those of Bourdeaux, Rochelle, Cognac, or Cogniac, the isle of Rhe, Orleans, Nantz, and Poitiers.

The intemperate use of brandy and other spirituous liquors is a detestable practice, which includes in its consequences almost every evil, physical and moral; it attenuates the body, impairs the strength, stupifies the brain, and, in most instances, shortens the duration of human existence:

As in my youth I never did apply
Hot and rebellious liquors in my blood;
Therefore my age is as a luffy winter,
Frosty but kindly.

SHAKSPEARE.

The celebrated Bishop Berkeley used to call the few who had drank spirituous liquors with impunity for a series of years, *The Devil's decoys* †.

The art of distilling brandy, and other spirits, was first brought into Europe by the Moors of Spain, about the year 1150. They learned it of the African Moors, who had it from the Egyptians; and these are said to have

* Mr. Confett, in his Swedish Tour, says, they make the low-priced brandy in that country from rye and a species of ants; a large black insect very plentiful there; and which the natives think highly palatable and pleasant to eat.

In Virginia and Maryland peaches and apples afford brandy. That made from the former Mr. Cooper deems as fine a liquor as ever he tasted. *Information respecting America*, p. 121.

† See Chron. and Biog. Exer. art. Darwin.

practised

practised it in the reign of the Emperor Dioclesian, though it was unknown to the ancient Greeks and Romans.

The yearly export of brandies from France is said to amount to 25,000 tuns. What is the value of this quantity at 5*s.* 6½*d.* per gallon? *Ans.* £3,745,625.

N. B. Brandy now sells for 28*s.* a gallon in London.

No. 544. RUM.—Rum is a species of vinous spirit, drawn by distillation from sugar-canes, or rather from melasses, or molasses, which are the dregs of sugar. The word rum is the name it bears among the native Americans. Dr. Johnson acknowledges his ignorance of its derivation. The island of Jamaica* alone is said to produce-annually four millions of gallons of this liquor. What is their value at 3*s.* 9½*d.* per gallon? *Ans.* £758,333 6*s.* 8*d.*

N. B. Rum sells at present for 18*s.* a gallon in London.

No. 545. SUGAR.—Sugar is a very sweet agreeable saline juice, expressed from a kind of canes, or reeds, growing in great plenty in the East and West-Indies †.

It is supposed that sugar was not known among the ancient Greeks and Romans, who used only honey for sweetening; but this question is not yet entirely decided among the learned, who are moreover divided concerning the country to which it was indigenous. Some say, that it came originally from China, by way of the East-Indies and Arabia, into Europe; others assert, that the sugar-cane is as natural to America as India; while others maintain, that it was not known in America, till the Europeans transplanted it thither. According to the more prevalent opinion, sugar had its origin in the Eastern part of Asia. From that continent it was transplanted to Cyprus; thence to Sicily; thence to Madeira and the

* Jamaica is the most valuable island that we possess in the West-Indies. It was discovered by Columbus on the 3d of May 1495, and taken by the English on the 3d of May 1655. See Chron. and Biog. Exer.

† An important discovery, of making sugar from white beet-root, has been lately announced at Berlin. See Month. Mag. for Aug. 1799.

Canary-Isles; and from these last to Brazil, where, indeed, some suppose that sugar was originally and spontaneously produced. About the year 1506, sugar-canes were brought from Brasil and the Canaries, and planted in Hispaniola: and in 1641, they were transplanted from Brasil to Barbadoes, and thence to our West-India Isles. Our ancestors made use of sugar, rough as it came from the cane; the boiling, baking, and refining of it being comparatively a modern invention.

To cultivate the sugar-cane in the West-Indies, the wretched Africans are torn from their native land, in defiance of every principle of religion, humanity, and justice. When the European kidnaping manufacturers of human woe land on their coast, not only parents are dragged from their families, and children from their parents, and the most endearing ties of friendship, attachment, and relationship, burst asunder;

“ For beaded knees, pure hands held up,

“ Sad sighs, deep groans, or silver-shedding tears,”

avail nothing with their sanguinary invaders; but whole villages and towns are depopulated or burnt, and every species of terror, dismay, and brutality, instantly pervades their unhappy country.

Tell, if thou canst, the sum of sorrows there;
Mark the fixt gaze, the wild and frenzied glare,
The racks of thought, and freezings of despair!

ROGERS'S *Pleasures of Memory*.

As soon as the traffickers in human gore have gotten their complement on board the ship, it immediately makes off; when many of the miserable victims fall into such deep grief and despair, that they languish, sicken, and die in the passage: while others, scorning to survive the loss of liberty, embrace a voluntary death. But, gentle reader, “ pause not here;”—behold the despairing survivors transported

Beyond the Western wave,
Go view the captive barter'd as a slave!
Crush'd till his high heroic spirit bleeds,
And from his nerveless frame indignantly recedes.

Pleasures of Memory.

Arriyed at the destined plantations, the day hardly dawns when the whip resounds through those regions of horror; nor ceases till darkness closes the scene, which day after day is renewed, till at length the miserable creatures expire beneath the lash, which in vain endeavours to rouse them to a renewal of their labour.

A celebrated French moralist well observes, that he cannot look on a piece of sugar without conceiving it stained with spots of human blood; and Dr. Franklin very properly subjoins, that had he taken in all the consequences of the slave trade, he might have seen the sugar not merely spotted but dyed scarlet in grain. Well then might the benevolent Cowper put the following affecting interrogation into the mouth of his complaining negro:

Why did all-creating Nature
Make the plant for which we toil?
Sighs must fan it, tears must water,
Sweat of ours must dress the soil.

Think ye masters iron-hearted,
Lolling at your jovial boards,
Think how many backs have smarted
For the sweets your cane affords!

The Abbe Raynal computes that, at the time of his writing, 9,000,000 of slaves had been consumed by the Europeans. Add 1,000,000 at least since, for it is about ten years, says Mr. Cooper, who published letters on this subject in 1787. Recollecting then that for one slave procured, ten at least are slaughtered, that a fifth die in the passage, and a third in the seasoning, and the unexaggerated computation will turn out, that the infernal voracity of European avarice has been glutted with the murder of 180,000,000 of our fellow-creatures*. The

* Letters on the Slave Trade, by T. Cooper, Esq. p. 25.

traffic, in the *strib* and *blood* of our fellow-creatures, not only proves that in some persons mercantile cupidity is insatiable, but also that it is generally unaccompanied by remorse. This monstrous "colossal crime" has not been perpetrated with impunity. Not only its prosecution, but its effects, have in some measure called down upon us the frowns and the judgments of heaven.

By foreign wealth are British morals chang'd,
And Afric's sons, and India's, smile aveng'd.

Mrs. BARBAULD.

This detestable and inhuman commerce, which has so long been an opprobrium to our national character, has, however, at length been proscribed with merited ignominy by the British Parliament of 1807; an auspicious event, never to be forgotten in this free country*.

The island of Jamaica is said to produce annually 70,000 tons of sugar. What is their value at 19s. 4½d. per hundred weight? *Ans.* £1,356,250.

No. 546. GOOSE.—The goose, says Dr. Johnson, is a large water-fowl, proverbially noted for foolishness; hence the term goose-cap denotes a silly person. Geese are likewise noted for wakefulness:

Nor watchful dogs, nor the more wakeful geese †,
Disturb with nightly noise the sacred peace.

DRYDEN.

Tame geese are of vast longevity; an instance is mentioned of one that attained eighty years. Multitudes of tame geese are kept in the fens of Lincolnshire; a single person will keep a thousand old geese, each of which will rear seven; so that towards the end of the season he will become master of eight thousand. The geese are plucked five times in the year; the first plucking, in pursuance of this barbarous practice, is at Lady-Day, for feathers and

* See *Exer. on the Globes*, art. *Apis*, and *Chron. and Biog. Exer.* 4th edit. May 1, 1807.

† This vigilant quality once saved the capitol at Rome. See *Exer. on the Globes*, art. *Anser*.

quills;

quills; and the same is renewed, for feathers only, four times more between that and Michaelmas*. The produce of these feather pluckings is so great, that there are frequently sent away in one year from the town of Boston, in this county, 300 bags of feathers, each containing 168 pounds. When the season proves cold, many of the poor animals die by this inhuman custom†.

How many guineas are the entire number of geese in this question worth at a guinea and a half per dozen?
Ans. 1,000 guineas.

No. 547. PEN.—A pen is an instrument to write with, made of quills, taken from the wings of ravens, turkeys, peacocks, and geese. The goose-quill pens are generally made use of among us, and in the neighbouring countries; but in some parts of the world they write with reeds to this day, particularly the Turks, Moors, and Eastern people‡. The same author observes, that wherever the word *pen* occurs in our English translation of the Old and New Testament, we must not understand it of a pen made of a quill, but of an *iron style*, or a *reed*, with which the ancients wrote. The former was sharp at one end like a pointed needle, to write with, and at the other end blunt and broad, to scratch out what was written, and not approved of, to be amended§.

Goose-quill pens are supposed to have been in use among us between four and five hundred years. Allatius, keeper of the Vatican library, who died at Rome in 1669,

* See Pennant's British Zoology, vol. ii. art. Goose.

† This species of cruelty is very properly censured by the Rev. T. Young, in his admirable little treatise on humanity to animals; a work which we have several times quoted in the Exercises on the Globes; and which we earnestly recommend to the perusal of our young readers.

‡ See Massey on the Origin of Letters, p. 68, 125.

§ John Erigena, a learned school-master who was patronised by Alfred the Great, died in the year 883, of the wounds given him by his scholars with the iron bodkins they employed in writing. See Mr. Jones's New Biog. Dict. art. Erigena. A Roman licitor (or attendant upon a consul), in the interest of Caius Gracchus, died a similar death, being pierced with the instruments they used in writing. GOLDSMITH'S Roman Hist. chap. xvii.

had a very extraordinary pen, with which, and no other, he wrote Greek for 40 years; and having lost it, he was so grieved, that he could scarcely refrain from tears. It is not said of what the pen was made*.

Philemon Holland, a physician of Coventry, translated Pliny's Natural History into English with *one* pen, as he says himself in these lines:

With one sole pen, I wrote this book,
Made of a grey-goose quill; -
A pen it was, when I it took,
A pen I leave it still.

It is humorously remarked by Mr. Howel †, that the goose, the bee, and the calf, rule the world; the one affording parchment, the other two sealing-wax, and quills to write with. The pen, he adds, hath a thousand virtues; it conserves empires, and preserves that noble virtue friendship, which else would perish among men for want of practice. The pen, however, is a two-edged sword, which cuts both ways; and may, in the hands of a vicious person, do the greatest injury to society, agreeably to the observation of an excellent poet:

The sacred implement I now employ,
Might prove a mischief, or at best a toy;
A trifle, if it move but to amuse:
But, if to wrong the judgment, and abuse,
Worse than a poignard in the basest hand,
It stabs at once the morals of a land.

COWPER.

Many of the quills used in England come from Hudson's-Bay, Hamburg, and Ireland.

Suppose a quill merchant should buy 20,000 quills at 3s. a thousand; pay 1s. 6d. a thousand for having them dutched; and 4s. 6d. a thousand for their being converted into pens, which he should then sell for 1s. 2d. per hundred; what would he gain by the sale? *Ans.* £ 2 13s. 4d.

* See Maffey, p. 70, and the Ency. Brit. or Biog. Dict. art. Allatius,

† See his Letters in "Elegant Epistles."

No. 548. GLASS.—It is pleasing, as Dr. Johnson well remarks, to contemplate a manufacture rising gradually from its first mean state by the successive labours of innumerable minds; to consider the first hollow trunk of an oak, in which, perhaps, the shepherd could scarcely venture to cross a brook swelled by a shower, enlarged at last into a ship of war, attacking fortresses, terrifying nations, setting storms and billows at defiance, and visiting the remotest parts of the globe. And it might contribute to dispose us to a kinder regard for the labour of one another, if we were to consider from what unpromising beginnings the most useful productions of art have probably arisen. Who, when he saw the first sand or ashes, by a casual intenseness of heat melted into a metalline form, rugged with excrescences, and clouded with impurities, would have imagined, that in this shapeless lump lay concealed so many conveniences of life, as would in time constitute a great part of the happiness of the world. Yet by some such fortuitous liquefaction was mankind taught to procure a body at once in a high degree solid and transparent, which might admit the light of the sun, and exclude the violence of the wind; which might extend the sight of the philosopher to new ranges of existence, and charm him at one time with the unbounded extent of the material creation, and at another with the endless subordination of animal life; and, what is yet of more importance, might supply the decays of nature, and succour old age with subsidiary sight. Thus was the first artificer in glass employed, though without his own knowledge or expectation. He was facilitating and prolonging the enjoyment of light, enlarging the avenues of science, and conferring the most lasting pleasures; he was enabling the student to contemplate nature, and the beauty to behold herself*.

Glass is a transparent, solid, brittle, factitious body, produced of a species of salt† and sand, or stone, by the

* Rambler, No. 9.

† The salt is procured chiefly from a kind of ashes, called polyerine, or rochetta, brought from the Mediterranean, particularly from Alexandria and Tripoli. The ashes come from the plant kali, sometimes called glass-weed.

action of fire. The process is in part described in the following lines:

For this intent the subtle chemist feeds
 Perpetual flames, whose unresisted force
 O'er sand and ashes and the stubborn flint
 Prevailing, turns into a fusil sea,
 That in his furnace bubbles sunny-red:
 From hence a glowing drop with hollow'd steel
 He takes, and by one efficacious breath
 Dilates to a surprising cube, or sphere,
 Or oval, and fit receptacles forms
 For ev'ry liquid with his plastic lungs,
 To human life subservient.

PHILIPS.

The chemists maintain, that all bodies may be vitrified; and as glass is the effect of fire, so it is the last effect of that element; all the chemist's art, and all the force of fire, not being able to carry the change of any natural body beyond its vitrification.

The discovery of glass, according to Pliny, took place by accident, in Syria, at the mouth of the river Belus, by certain merchants driven thither by the fortune of the sea. Being obliged to live there, and dress their victuals by making a fire on the ground, and plenty of the plant kali being on the spot, this herb being burnt to ashes, and the sand or stones of the place accidentally mixing with it, a vitrification was undesignedly made; whence the hint was taken, and easily improved.

The first place, according to some authors, mentioned for the art of making glass, is Sidon in Syria, which became famous for glass and glass-houses; but others maintain, that the first glass-houses noticed in history were erected at Tyre, which, they add, was the only staple of the manufacture for many ages. Italy had the first glass windows; next France, whence they came into England, and began to be common about the year 1180. The Venetians, for many years, excelled all Europe in the fineness and size of their looking-glasses; but they are now surpassed both by the English and French.

The glass manufacture was first begun in England in 1557, in London; improved in 1635; and brought to a great

great degree of perfection in the reign of King William III. But the first glass-plates, for looking-glasses and coach-windows, were made in 1673, at Lambeth.

An extensive manufactory of this elegant and valuable branch of commerce, first established in Lancashire about the year 1773, bids fair to rival, if not excel, the most celebrated continental manufactures, with respect to the quality, brilliancy, and size of its productions*. Mr. Townsend, however, who travelled through Spain in 1786, asserts, that the glass manufacture at S. Ildefonsa (a noted palace built by Philip V. about 24 miles from the famous Escorial) is carried to a degree of perfection unknown in England. The largest mirrors are made in a brass frame, 162 inches long, 93 wide, and 6 deep, weighing nearly nine tons. These are designed wholly for the royal palaces, and for presents from the king†.

If 1728 elegant wine glasses were bought for £65 2s. how must they be sold per dozen, or per glass, to gain ten guineas by the sale of the whole? *Ans.* 10s. 6d. per dozen; or 10½d. per glass.

No. 549. GLOVES.—A glove is a covering for the hand and arm, used for warmth, decency, and as a shelter from the weather. Gloves are made of various materials. Leathern Gloves are made of shamois (pronounced *shammy*), kid, lamb, doe, elk, buff, &c. The chief places for the manufacture of English gloves are Worcester, Hereford, Hexham, and Yeovil.

Suppose a glover in London should purchase 50 dozen pairs of gloves from Worcester, at 18s. 6d. per dozen, how must he sell them per pair to gain after the rate of 20 per cent. by the sale? *i. e.* to gain twenty pounds by every hundred pounds which he should lay out in the same manner? *Ans.* 1s. 10d. $\frac{4}{5}$.

No. 550. HATS.—A hat is a covering for the head, worn by the men throughout the Western part of Europe. Hats for men were invented at Paris by a Swiss in 1404. They were first manufactured in London by Spaniards

* See Dr. Rees's New Cyclop. and Ency. Brit.

† Journey, vol. ii. p. 114.

in 1510. Before that time, both men and women in England commonly wore close-knit woollen caps*. F. Daniel relates, that when Charles II. (of France) made his public entry into Rouen in 1449, he had on a hat lined with red velvet, and surmounted with a plume or tuft of feathers. He adds, that it is from this entry, or at least under his reign, that the use of hats and caps is to be dated, which henceforward began to take place of the chaperons and hoods that had been worn before in France †. Hats are made either of wool, or the hair of divers animals, as the hare, rabbit, camel, &c. and particularly of the castor or beaver ‡. Hats are also made for women's wear, not only of the above materials, but of chips, straw, cane, horse-hair, silk, &c.

Suppose hats purchased at 17s. 6d. each, wholesale, were retailed at a guinea each, what would be the gain per cent. ? *Ans.* £20 per cent.

No. 551. SHOES.—A shoe is a covering for the foot, now usually made of leather; but in different ages and countries, shoes have been made of very various materials. They have been made of raw skins, of rushes, broom, paper, flax, silk, wood, iron, silver, and gold. Their appearance also has been very various, with respect to

* Stow's Chron.

† A hat since the time of TELL, the magnanimous Swiss patriot, has been the symbol of liberty in that country—at least it is so now. See Miss Williams's Letters, ii. 232. Chron. and Biog. Exer. art. Tell; and Exer. on the Globes. art. Sagitta. Hats are mentioned in the third chapter of the prophet Daniel. See an entertaining dialogue on the subject of wearing hats, between Judge Glynn and the celebrated George Fox, in the Portraiture of Quakerism, vol. i. p. 354.

‡ The "half-reasoning" beaver, as Dr. Darwin calls this amphibious animal ¶, is frequent in Canada and other provinces of North America, and remarkable for his art, address, and contrivance, in building his habitation, of which so many wonderful accounts are delivered by travellers, that they would scarcely obtain credit, were they not well attested. Our young readers may consult, on this interesting subject, Sturm's Reflections for August 12; or that highly entertaining and instructive performance, Bingley's Animal Biography.

¶ Pope applies the term "half-reasoning" to that noble and sagacious animal, the elephant.

shape,

shape, colour, and ornament. They have been square, high, low, long, and quite even, cut, carved, &c. So true is the observation of Shakspeare, that

New customs,
Though they be never so ridiculous,
Nay, let 'em be unmanly, yet are followed.

The patricians, among the Romans, wore an ivory crescent on their shoes. Isaiah, ch. iii. 18. speaks also of the moons which the Jewish women wore on their shoes. Heliogabalus had his covered over with a very white linen, in conformity to the priests of the sun; Caligula wore his enriched with precious stones. The Indians, like the Egyptians, wore shoes made of the bark of the papyrus. Pythagoras would have his disciples wear shoes made of the bark of trees; probably, that they might not wear what were made of the skins of animals; as they refrained from the use of every thing that had life*. The Turks always put off their shoes, and leave them at the doors of the mosque†. In the reign of Edward IV. there was an extraordinary method of adorning shoes in England, with long peaks turning upwards from the toe, and fastened by silver chains or laces to the knees; a custom which was prohibited by a penal statute in the same monarch's reign.

A pair of shoes is shewn, among other curiosities, at Petersburg, which belonged to Peter the Great, that

* See Calmet's Dict. of the Bible, new edit. art. Shoes; and Quest. 563.

† In allusion to this custom, Dr. Jortin, speaking of *religious truth*, says, "He who is desirous to find religious truth, must seek her in the Holy Scriptures, interpreted by good sense and sober criticism, and embrace no theological systems any further than as they are found consistent with the word of God, with right reason, and with themselves. A theological system is too often a temple consecrated to implicit faith; and he who enters there to worship, instead of leaving his shoes, after the Eastern manner, must leave his understanding at the door; and it will be well if he finds it when he comes out again." It was anciently a custom in the East, and a mark of respect, to put off the shoes when approaching a superior. Of this court-ceremony, the "King of Kings" once enjoined the observance near Mount Sinai, or Horeb, as a token of reverence due to himself. See Exod. iii. 5. and Acts vii. 33.

had been *soled* several times*. A Persian peasant, who was elevated, from his hovel to the palace of his sovereign; kept, with care, his original wooden shoes, to remind him of his first humble station†. The young Pretender, after his defeat at Culloden, skulked about the Hebrides for many months in the greatest distress‡. At Port Ree, in the island of Sky, his shoes were worn out§, and a friend furnished him with a new pair, and kept the old ones till his own death; when, as the late Mr. Boswell, in his Journal, informs us, a zealous *Jacobite*¶ gave 20

* Original Anec. of Peter, p. 370.

† Mr. Andrews's Anecd. p. 42. This anecdote brings to one's mind what Plutarch relates of the kings of Persia, that on their coronation-day, they put on a robe, which the first Cyrus wore *before he was king*, to remind them of imitating his exemplary temper and behaviour. With similar views the apostle Paul strongly exhorts Christians to "put on the Lord Jesus Christ;" *i. e.* to endeavour to be clothed with all the virtues and graces which composed his character.

‡ See Quest. 422, and Chron. and Biog. Exer. art. Pretender.

§ Thomas Coryat in one of his tours walked 900 miles in one pair of shoes, which he got mended at Zurich in Switzerland. Coryat was born at Odcombe, Somersetshire, in 1577, and died at Surat in Asia, in 1617.

¶ The term *Jacobite* is derived from *Jacobus*, and was a reproachful epithet bestowed on persons who disapproved of the revolution by King William, and who continued still to assert the right, and adhere to the interests, of the dethroned tyrant James, and his family. It has, moreover, been applied to all such as have vindicated the execrable doctrines of passive obedience, non-resistance, and the divine right of kings, and who, consequently, hold high notions of their prerogatives. In this last sense it has much the same import with *Tory*. The epithet *Whig* is generally understood to denote a friend to civil and religious liberty; a stern advocate for the rights of the PEOPLE, but who, nevertheless, is zealous for the support of the king in all his just prerogatives, though at the same time desirous of reducing him to an incapacity of abusing his power.

Whatever, says Mr. Belsham, tends to enlarge the power of princes or of magistrates beyond the precise line or limit of the general good, whatever imposes oppressive, or even superfluous restraints upon the liberty of the people, or introduces any species of civil inequality, not founded on the basis of public utility, is of the very essence of *toryism*. On the other hand, genuine *whiggism* is nothing more than good temper and good sense, or, to adopt higher and more appropriate terms of expression, benevolence and wisdom, applied to the science of government.

guineas for them. When the poet Linieres, says Menage, was reproached with always walking on foot, he replied extempore in the following epigram :

Je vois d'illustres cavaliers
Avec laquais, carosse, et pages;
Mais ils doivent leurs equipages,
Et je ne dois pas mes fouliers.

If 365 dozen pairs of shoes were bought in London for a thousand guineas, and taken to America at the expence of thirty guineas, how must they be sold per pair, in that country, for the purchaser to gain thirty per cent. by the sale? *Ans.* 6s. 5d. $\frac{672}{4380}$.

No. 552. STOCKINGS.—Stockings are coverings for the legs and feet. Anciently the only stockings in use were made of cloth, or of milled stuffs sewed together; but, since the invention of knitting and weaving stockings of silk, cotton, wool, thread, &c. the use of cloth stockings is quite discontinued. It is related, that Queen Elizabeth, being presented with a pair of black knit silk stockings in 1561, never afterwards wore any cloth ones. The same author, Dr. Howel, adds, that Henry VIII. usually wore cloth hose, except there came from Spain, by great chance, a pair of silk stockings. His son, Edward VI. was presented with a pair of long Spanish silk stockings, by Sir Thomas Gresham, and the present was then much taken notice of. Hence it should seem, that the invention of silk knit stockings originally came from Spain. There is a MS. letter from James VI. of Scotland to the Earl of Mar, requesting the loan of a pair of silk stockings in which the Earl had appeared at court, because he was going to give audience to the French ambassador*. The art of weaving stockings in a frame was invented in 1589, by William Lee, M. A. of St. John's College in Cambridge, a native of Woodborough, near Nottingham.

A pair of coloured worsted stockings, mended in several places, formerly belonging to Peter the Great, are still

* Mr. Townsend's Journey, vol. iii.

exhibited at Petersburg*. The great Frederick of Prussia, either through œconomy or carelessness, or both, was accustomed to wear all his clothes as long as decency permitted; sometimes, indeed, rather longer; and it was usual with him to order his breeches to be mended, and his coat to be pieced under the arms. When Peter the Great was in France, the Marquis de Nele appeared before him every day in a new dress; "Surely," said the Czar to him, "your tailor must be a very bad one, that he can never fit you." Field Marshal Count Daun, a famous Austrian general, had, it is said, a dress for every day in the year. John IV. king of Portugal, uniformly aimed at making luxury unfashionable. Seeing the ambassador to London in an English hat one day, he inquired how much it cost; and hearing two pounds English money, he replied, "Take care of it; for I can purchase four hats in Portugal for that sum." So fond was our Queen Elizabeth of dress, that three thousand different habits were found in her wardrobe after her death. Mortifying reflection! says Pennant, in finding such alloy in the greatest characters.

The exportation of stockings from Great-Britain forms an important article of commerce. Our principal manufacture is at Nottingham; but from Aberdeen there are, says the *Ency. Brit.* no less than 69,333 dozen pairs of stockings annually exported, worth on an average £1 10s. per dozen.

What is the value of the whole at the above price; and supposing them retailed at 2s. 9½d. per pair, what would be gained by the sale, allowing 2,000 guineas, £33 5s. 6d. for carriage, &c. *Ans.* £103,999 10s. value of the whole; and £10,000 gained by the sale.

No. 553. TOBACCO.—Tobacco received its name from Tabacco, a province of Yucatan, New Spain, North America; or, as some assert, from the island of Tobago, one of the Caribbees. It was not known in Europe till after the discovery of America by the Spaniards, and was first imported about the year 1560. It was brought into England about 1586, in the reign of Queen Elizabeth;

* Orig. Anecd. of Peter, p. 370.

and it is supposed, either by Sir Francis Drake, or Sir Walter Raleigh. Our James I. wrote a treatise expressly against the use of this exotic weed. It is, says he, a custom loathsome to the eye, hateful to the brain, dangerous to the lungs, and in the black, stinking, fume thereof nearest resembling the horrible stygian smoke of the pit that is bottomless. The same royal author, as Mr. Granger observes, professed, that were he to invite the Devil to a dinner, he should have three dishes: first, a pig; second, a poll of ling and mustard; and third, a pipe of tobacco for digesture*. One of our best modern poets has also expressed a pointed dislike to the use of tobacco, but for a reason much more cogent than any of those assigned by the pedantic "British Solomon:"

Pernicious weed! whose scent the fairannoys,
 Unfriendly to society's chief joys,
 Thy worst effect is banishing for hours
 The sex whose presence civilizes ours:
 Thou art, indeed, the drug a gard'ner wants,
 To poison vermin that infest his plants;
 But are we so to wit and beauty blind,
 As to despise the glory of our kind,
 And show the softest minds, and fairest forms,
 As little mercy as *he* grubs and worms?

COWPER.

Tobacco, however, has not been without its able advocates, of which number was Mr. J. Philips, who has sung its praises in all his poetical productions except "Blenheim;" and his "Splendid Shilling," says one of his biographers, owes some part of its lustre to the happy introduction of a tobacco-pipe. In his "Cider" we find the following eulogium on this "sovereign herb," as he elsewhere styles it:

To sage experience we owe
 The Indian weed unknown to ancient times,
 Nature's choice gift, whose acrimonious fume
 Extracts superfluous juices, and refines
 The blood-distemper'd from its noxious salts;
 Friend to the spirits, which with vapours bleed

* Biog. Hist. of England, vol. ii. P. 11.

It gently mitigates; companion fit
 Of pleasantry and wine; nor to the bards
 Unfriendly, when they to the vocal shell
 Warble melodious their well-labour'd songs.

Dr. Johnson once remarked, that since the difuse of smoking among the better sort of people, suicide has been more frequent in this country than it was before.

Tobacco is cultivated in several parts of America, in the West-Indies, the Levant, the coasts of Greece, the Archipelago, Malta, Italy, France, Ceylon, &c. The principal kinds of tobacco imported into England are the Maryland, called Oronooko, and the Virginia. British taste prefers that of the latter State, while the Northern nations of Europe are said to like the former better. The cultivation of tobacco, says Dr. Gordon, began in Virginia in the year 1616.

Tobacco is either taken by way of snuff, as a sternutatory; or as a masticatory, by chewing it in the mouth; or by smoking it in a pipe. It is considered as a first-rate narcotic or opiate, and is occasionally used medicinally. France, says Zimmerman, raises 15,000,000 pounds of tobacco annually. What is the value of this quantity at £7 15s. 6d. per cwt.? *Ans.* £1,041,294 12s. 10½d.

No. 554. BUTTER.—Butter is an unctuous substance, made by agitating the cream of milk in a churn, till the oil separates from the whey, or serous parts. Some of our churns are heavy machines, and require great exertions of strength to work them; but Mr. Townsend observes, that in Spain the women churn as they walk along, or stand chatting with a neighbour, each with a leathern bag, in which they shake the cream till the butter is completely formed*. In Barbary, butter is made by putting the milk or cream into a goat's skin, suspended from one side of the tent to the other, and pressing it to and fro in one uniform direction; and in Bengal butter is easily made by the slight turning of a stick in milk †.

* Journey, vol. i. p. 388.

† Shaw's Trav. and Phil. Transf.

The trade in butter in England is very considerable. Some compute, that 50,000 tons are annually consumed in London only. It is chiefly made within forty miles round the city. Fifty thousand firkins are said to be sent yearly from Cambridge and Suffolk alone; each firkin containing 56 pounds. A considerable part of this vast quantity is, however, brought from Downham, 10 miles South from Lynn, in Norfolk, to Cambridge, and thence conveyed by land-carriage to LONDON :

Dependent, huge METROPOLIS!
 Thou, like a whirlpool, drain'st the country round,
 Till London market, London price, resound
 Through every town, round every passing load;
 And dairy produce throngs the Eastern road:
 Delicious veal and butter, every hour
 From Essex lowlands, and the banks of Stour;
 And further, far, where numerous herds repose;
 From Orwell's brink, from Weveny, or Ouse.

FARMER'S BOY.

Uttoxeter, in Staffordshire, is a market famous for good butter, inasmuch that the London dealers have established a factory there for that article. It is bought by the pot, of a long cylindrical form, weighing 14lb. But no butter is esteemed equal to that which is made in the county of Essex, well known by the name of Epping butter.

It was long before the Greeks appear to have had any notion of butter: their poets make no mention of it, and yet are frequently speaking of milk and cheese. The Romans used butter no otherwise than as a medicine, never as food. The ancient Jews, however, appear to have been acquainted with the method of preparing butter. Solomon, Isaiah, and even Moses, speak of it. The last represents it as in use in Abraham's time; see Gen. xviii. 8. Prov. xxx. 33. and Isaiah vii. 15. but some modern writers suppose, that by butter in these passages we are to understand cheese; while others maintain, that, in scripture, the word butter almost always denotes liquid cream. When we read of children being fed with butter and honey, it means, say these commentators, cream and honey, which was very common in Palestine. Figuratively, it denotes plenty. See Job. xx. 17. and xxix. 6.

Suppose the quantity of butter sent from Cambridge and Suffolk to London yearly, were purchased for $7\frac{1}{2}d.$ per pound, and the expence of conveying it to town came to $1\frac{1}{4}d.$ per pound, how much would be the gain per cent. if it were sold in London at $11d.$ per pound; what would be gained by the sale of the whole; and what would be the whole sum that it sold for in London? *Ans.* £25 14s. $3\frac{1}{4}d.$ gain per cent.; £26,250 gained by the sale; £128,333 6s. $8d.$ the sum it sold for.

No. 555. VEGETABLE BUTTER.—Mr. Mungo Park, the celebrated African traveller, says, that the fruit of the shea-tree affords a vegetable butter, which, besides the advantage of its keeping the whole year without salt, is whiter, firmer, and, to his palate, of a richer flavour, than the best butter he had ever tasted made from cow's milk. These trees grow in great abundance in the kingdom of Bambarra, on the banks of the river Niger*: its fruit, from whose kernel, boiled in water, the butter is prepared, has somewhat the appearance of a Spanish olive. If two dozen firkins of this butter were purchased for £43 6s. and sold at $9\frac{1}{4}d.$ per pound, what would be gained by the sale? *Ans.* £8 10s.

No. 556. BREAD.—Bread is usually made of the flour or meal of some farinaceous vegetable, chiefly corn, ground and kneaded with water and yeast. Potato-bread is common in Ireland; and turnip-bread is used in some parts of England. In the time of James I. the usual bread of the poor was made of barley†. In Iceland

* This is one of the largest rivers in Africa, running near the Southern part of the Great Desert of Sahara. The populous town of Tombuctoo is situated upon it. The kingdom of Bambarra is in about 15° deg. North lat. and 2° deg. West long. See WILKINSON'S General Atlas.

† The Jews frequently ate barley bread; and Christ and his apostles had no other provision than five barley loaves and two small fishes, John vi. 9. Hosea says, chap. iii. 2, that he purchased his wife for 15 pieces of silver, and an omer and a half of barley. The word bread is sometimes employed to signify a thing of low price. See Ezekiel xiii. 19. An omer, or homer, contained nearly six pints. The principal use of barley in Great-Britain is noticed in our article Malt, *Quest.* 457, p. 268,

dried cod-fish, beaten to powder, and made up into cakes, is eaten for bread. The same kind of bread is made among the Laplanders*, whose country affords no corn. Bread, such as ours, is not only a very agreeable but a very wholesome and nutritive aliment; deemed, by some, the lightest and properest food for human bodies:

“Decaying man with strength supplying.”

It is, indeed, of human food the only one thing needful in this world, without which if man is compelled to live but a single day he suffers in his physical constitution and his moral happiness. The poorest of the human species must have bread. It is their first—their last subsistence. Let the price be ever so exorbitant, with this food they must be supplied, or they starve. If unable to obtain it, they will sicken in their health, spirits, and temper, and decay in their capacity for labour; as has been constantly exemplified in every garrison town where the allotment of this food has been necessarily reduced below the usual demands of nature. Dr. Shaw, in his Travels, says, that the Eastern nations in general are great eaters of bread; it being computed that three persons in four live entirely upon it, or else on such compositions as are made of barley or wheat flour.

Anciently each housewife was her own baker; and the learned are in great doubt about the time when baking became a particular profession, and bakers were introduced. It is, however, generally agreed, that they had their rise in the East, and passed from Greece to Italy after the war with Pyrrhus, about the year of Rome 583†.

The price of bread, in London, is regulated by the magistrates, according to the price of flour; and a quarter loaf, when well baked, is to weigh 4 lbs. 5 oz. 8 dr. What is the value of a pound of bread, when such a loaf sells for 1s. 10½d. [its enormous price, in the beginning of the year 1801;] and supposing a poor man, his wife, and four children, should consume only a quarter loaf a day, what would the article of bread amount to in a

* See Exer. on the Globes.

† See Dr. Rees's New Cyclop. and Ency. Brit. art. Baker.

year; and, admitting his earnings to be a guinea a week, how much would remain at the year's end for other purposes? *Ans.* 5*d.* $\frac{800}{1112}$ per lb.; £34 4*s.* 4 $\frac{1}{2}$ *d.* yearly amount of the bread; £20 7*s.* 7 $\frac{1}{2}$ *d.* the sum left for other purposes.

No. 557. CANDLES.—Candle is a cotton or linen wick, loosely twisted, and covered with tallow, wax, or spermaceti, in a cylindrical figure; which, being lighted at the end, serves to illumine a place in the absence of the sun. A tallow candle, to be good, must be half sheep's and half bullock's tallow; for hog's tallow makes the candle gutter, and always gives an offensive smell, with a thick, black smoke. The wick ought to be pure, sufficiently dry, and properly twisted; otherwise the candle will emit an inconstant vibratory flame, which is both prejudicial to the eyes, and insufficient for the distinct illumination of objects. There are two sorts of tallow candles; the one dipped, the other moulded. The first, which are those in ordinary use, are of an old standing; the latter are said to be the invention of the Sieur le Brez at Paris*.

The beautiful allusion made by Shakspeare to the light of a candle, with the moral deduced from it, is worthy of notice:

How far that little candle throws his beams!
So shines a good deed in a naughty world.

In a pretty sentimental sonnet, addressed to a candle, it is aptly observed, that this useful and social luminary is not only a friend and companion, but, to an observant mind, a moral instructor:

Its gradual waste in unperceiv'd decay,
May well to *man*-a moral lesson teach:
Thus glide *his* years in silent course away,
Towards that bourne we all are doom'd to reach.

MONTH. MAG. vol. xiii. p. 452.

Suppose a person bought 40 dozen pounds of candles for £16 4*s.* and, in consequence of their being damaged in conveying them home, he should be obliged to sell

* See Dr. Rees's New Cyclop. and Ency. Brit.

them

them at $5\frac{1}{2}d.$ per pound, what would be his loss by the sale? *Ans.* £4 14s.

No. 558. SOAP.—Soap is a kind of paste, sometimes hard and dry, and sometimes soft and liquid, much used in washing, and for various other purposes. Soap was imperfectly known to the ancients. The first express mention of it occurs in Pliny* and Galen†; and the former declares it to be an invention of the Gauls, though he prefers the German to the Gallic Soap‡. In remote periods clothes were cleaned by being rubbed or stamped upon in water. In Homer we read that Nauficæa and her attendants washed theirs by treading upon them with their feet in pits, into which they had collected water§. The chief ingredients used in making green soft soap are, lees drawn from pot-ash and lime, boiled up with tallow and oil, with the addition of indigo to colour it. In white soft soap the oil is omitted. Hard soap is made with lees from ashes, and tallow. The finest of the common soaps is that called Spanish, or Castile Soap, which is made with olive oil, and the alkaline salt called soda or barilla; a plant much cultivated in Spain for its ashes.

Soap, both hard and soft, is applied to medical uses. It is a very effectual anti-acid, and one of the best antidotes to stop quickly, and with the least inconvenience, the bad effects of acid corrosive poisons, as aqua-fortis, &c.

The manufacture of soap in London first began in the year 1524; before which time this city was served with white soap from foreign countries, and with grey soap speckled with white from Bristol||. Mr. Zimmerman says, that it is an inferior sort of oil which is used in making soap in France; and he adds, that in Marseilles, now in

* See Chron. and Biog. Exer.

† See Question 218, p. 105.

‡ See BECKMANN'S History of Inventions, vol. iii. p. 239.

§ Odyssey, vi. 91. Nauficæa was the daughter of Alcinous, king of the Phæaceans (see Quest. 448). She met Ulysses shipwrecked on her father's coasts, and it was to her humanity that he owed the kind reception he met with from the king.

|| Dr. Rees's New Cyclop.

the department of the Mouths of the Rhone, there are 96 soap manufactories.

* What are 2 cwt. 3 qrs. 27 lbs. of soap worth at $11\frac{1}{4}d.$ per lb.; and how must it be sold per lb. to gain £3 11s. $11\frac{1}{4}d.$ by the sale? *Ans.* £16 8s. $0\frac{1}{4}d.$ the value; 1s. $2\frac{1}{4}d.$ $\frac{10}{33}$ the price it must be sold for.

No. 559. PLAGUE.—This is a very acute, destructive, malignant, and contagious disease; being a putrid fever in its worst degree, and usually proving mortal. It is said to be an exotic disease, never bred or propagated in England, but always imported from abroad, and particularly from the Levant, the coasts of Asia the lesser, and Egypt, where it is familiar:

Those inclement skies,
Where, frequent o'er the sickening city, Plague,
The fiercest child of Nemesis* divine,
Descends. From Ethiopia's poison'd woods,
From stifled Cairo's filth, and fetid fields
With locust-armies putrifying heap'd,
This great destroyer sprung †.

THOMSON.

The juice of lemons is commended as of singular efficacy in the plague, and pestilential fevers; being the principal remedy of the Indians, and what the Turks have recourse to. Camphor is also much praised; it was the basis of Hensius's antipestilential oil, which was prepared from equal quantities of camphor, citron-peel, and amber. For this efficacious remedy the author had a

* Nemesis was the goddess of Vengeance: she is represented with a helm and a wheel; and sometimes drawn with wings, to denote the celerity with which she is prepared to punish the crimes of the wicked both by sea and land.

† These are the causes supposed to be the first origin of the plague, in Dr. Mead's elegant book on that subject. It is worthy of remark, that this direful disease, which, for a series of ages, had, with very short intervals, visited our capital in its most dreadful forms, never has appeared among us since the rebuilding of the city, in an open and airy manner, after the great Fire in 1666. Thus, through the mercy of God, did that distressing calamity put a stop to one of a far more tremendous nature!

statue erected to him, after his death, in the city of Verona, in Italy. A piece of myrrh held in the mouth, in contagious places, and smoking tobacco, are also commended; but nothing is more extolled, as a preservative against putridinous contagions, than vinegar: and it is now a common practice to wash and sprinkle the rooms of hospitals, the decks of ships, &c. with vinegar to purify the air. Boerhaave mentions a physician that visited his patients in the plague with safety, by drinking first an ounce or two of vinegar. See *Quest.* 596.

The plague of London, in 1665, carried off in the space of six months 160,000 persons, according to the Earl of Clarendon's calculation. The matchless horrors of such an agonizing scene are pathetically delineated by Thomson:

Mute was the voice of joy,
 And hush'd the clamour of the busy world.
 Empty the streets, with uncouth verdure clad;
 Into the worst of desarts sudden turn'd
 The cheerful haunt of men: The sullen door,
 Yet uninfected, on its cautious hinge
 Fearing to turn, abhors society:
 Dependants, friends, relations, Love himself,
 Savag'd by woe, forget the tender tie,
 The sweet engagement of the feeling heart.
 Thus o'er the prostrate city black Despair
 Extends her raven wing; while, to complete
 The scene of desolation, stretch'd around,
 The grim guards stand, denying all retreat,
 And give the flying wretch a better death.

That this picture of distress is not too highly coloured may be conjectured from the subsequent well-attested relation. During the progress of the disease, fear seemed to have steel'd the hearts of men; for, as soon as its nature was certainly known, above 40,000 servants were turned into the streets to perish: no one would receive them into their houses; and the villagers near town drove them away with pitchforks and fire-arms. To the immortal honour of Sir JOHN LAURENCE, at that time Lord-Mayor of London, it is recorded, that he took these wretched fugitives under his immediate protection, relieved

relieved them with his own fortune as long as that lasted, and then supported them by subscriptions, which he solicited from all parts. The king contributed a thousand pounds a week: and in the whole the vast sum of a hundred thousand pounds was weekly distributed*. How much was disbursed daily; and, supposing 160,000 persons to have been relieved, what was the sum that each received? *Ans.* £14,285 14s. 3¼d. daily; 1s. 9¼d. each.

No. 560. TURKEYS.—Turkeys are natives only of America, or the New World, and of course were unknown to the ancients. This is a point which Mr. Pennant has established, by an elaborate induction of

* Pennant's London, p. 348, edit. 3. Sir John Laurence is the benevolent character whom Dr. Darwin styles "London's gen'rous mayor," and whom he has justly united with "Marseilles' good bishop," so advantageously made known to us by Pope's fine lines:

Why drew Marseilles' good bishop purer breath,
When nature sicken'd, and each gale was death?

The name of this benefactor of mankind was Henry-Francois-Xavier de Belfunce, descended from a noble family in the late province of Guienne, and made bishop of Marseilles, now in the department of the Mouths of the Rhone, in France, in 1709. In the dreadful plague that ravaged that city in 1720, he distinguished himself by his ardent zeal and never-ceasing activity; being the pastor, the physician, the magistrate, and the almoner of his numerous flock, whilst that horrid calamity prevailed, and when those whose duty it was to attend them had fled. In 1723, Louis XV. offered him a more considerable bishoprick, which this worthy man, through attachment to his people, refused, and continued with them till his death, an event that occurred in the year 1755, and the blessings of all good men accompanied him to the grave. See Seward's Anecdotes of Distinguished Persons, vol. ii. 109, iv. 421, 4th edit. In the same work, vol. ii. 109 to 127, will be found an interesting account of an English clergyman, who behaved with like humanity and pastoral affection at Eyam, in Derbyshire, during the plague of 1666.

What tho' the autumnal sickness stalks around;
What tho' the rage of noon-day pestilence
Slays her ten thousands; yet beneath the shade
Of Providence the good man smiles secure
And undismay'd.

Zouen.

various

various particulars in the history of these birds; evincing, that they are natives neither of Europe, Asia, nor Africa; a circumstance since placed beyond all further controversy by the elaborate researches of the indefatigable and learned Beckmann*. Wild turkeys are now very rare in the inhabited parts of America, but are found in numbers in the distant and most unfrequented spots. Smyth assures us, that they are still so abundant in the uncultivated country behind Virginia, and the Southern provinces, that they may be met with in flocks of more than five thousand†. They usually weigh about thirty pounds each. The Indians make a very elegant clothing of the feathers, twisting the inner webs into a strong double thread of hemp, or inner bark of the mulberry-tree, and working it like matting: it appears rich and glossy, and as fine as a silk shag. They also make fans of the tail; and the French of Louisiana were accustomed to make umbrellas by the junction of four of the tails.

Turkeys were first introduced into Europe from Mexico or Yucatan, and imported into England, probably from Spain, as early as the year 1524. Since that period they have been successfully reared in this kingdom; so that in 1585 they made a dish even in our rural feasts. But in France they were so rare, that the first which was eaten in that country appeared at the nuptial feast of that monster of cruelty Charles IX. ‡ in 1570.

The largest turkeys in England are reared in the county of Norfolk. Some of them weigh upwards of 30 pounds, when prepared for dressing.

Suppose a person should purchase 500 turkeys for 125 guineas, and sell 40 at 5*s.* 9*d.* each; 60 at 6*s.* 2*d.* each; 150 at 6*s.* 9*d.* each; and the remainder at 7*s.* 6*d.* each, what would he gain by the whole? *Ans.* £43 2*s.* 6*d.*

NO. 561. INTRODUCTION OF VEGETABLES, &c. INTO ENGLAND.—One of the principal advantages resulting to Europe from exploring distant regions, has been the introduction of some of the most useful plants

* See his *History of Inventions*, vol. ii. p. 371, &c.

† *Tour in the United States of America*, published in 1784.

‡ See *Index*.

and fruits that are now cultivated with so much advantage. From the discovery of America, one of the most important benefits; perhaps, that we received, was the introduction of the potato; a root by far the most useful of all that we have among us*. The pear, the peach, the apricot, and the quince, were respectively brought from Epirus, Carthage, Armenia, and Syria. They were first transplanted into Italy, and thence disseminated by the Romans through the Northern and Western parts of Europe. Fruit, says Mr. Andrews, seems to have been very scarce in England, in the time of Henry VII. In an original MS. signed by himself, and kept in the Remembrance-Office, it appears, that apples were paid for at a high rate, not less than one or two shillings a piece; that a red rose cost two shillings; and that a man and woman had eight shillings and four-pence for a few strawberries †. It was not till the latter end of the reign of Henry VIII. viz. about 1547, that any salads, carrots, cabbage ‡, or other edible roots, were produced in England. The little of these vegetables that was used, was formerly imported from Holland and Flanders. Queen Catherine, (Henry's first consort) when she wanted a salad, was obliged to dispatch a messenger thither on purpose §. Sundry other kinds of fruits and plants were also first cultivated in England during this reign, particularly apricots, artichokes, pippins, and gooseberries. The latter are said to have been brought from Flanders. The currant-tree was conveyed from Zante, by the Venetians, and planted in England in the year 1533 ||.

Asparagus, cauliflowers, beans, and peas, were introduced about the time of Charles the II'd's restoration, viz. in 1660. The delightful ornaments of our gardens, the most beautiful and fragrant flowers, are also foreign productions. We will mention a few: Jessamine came from the East-Indies; the tulip, the lily ¶, and several others.

* See Quest. 219, p. 106.

† Anecd. p. 80.

‡ Cabbages were introduced into Scotland by the soldiers in Cromwell's army.

§ Hume, vol. iv. p. 273. || See Quest. 58a.

¶ The lily of the Scripture is of Persian origin; the Guernsey lily came from Japan, and the red-coloured lily was a native of South America. See Exer. on the Globes, art. Fleur-de-lis, and Chron. and Biog. Exer. 4th edit. art. Klopstock.

from the Levant (the Eastern shore of the Mediterranean); the tube-rose* from Java and Ceylon; the carnation and pink from Italy; and the auricula from Switzerland. The modern taste for flowers came, it is said, from Persia to Constantinople, and was imported thence to Europe for the first time in the sixteenth century. At any rate, says Beckmann†, we find that the greater part of the productions of our flower-gardens were conveyed by that channel. With what goodness, observes the pious Sturm, does God thus provide for our happiness and enjoyments, by making even the most remote countries contribute towards it‡. Let it moreover be considered, that nuts, acorns, crabs, and a few wild berries, were almost all the variety of vegetable food indigenous to our island. The meanest labourer, as Dr. Aikin justly observes, is now fed with more wholesome and delicate aliments than the petty kings of the country could obtain in its uncultivated state§.

The Emperor ALBINUS, who, before his advancement to the imperial dignity, had been made governor of Britain by Commodus, had so voracious an appetite, that we are told he sometimes devoured, for his breakfast, no less than 500 figs, 100 peaches, 10 melons, 20 lbs. of grapes, 100 small birds, and 400 oysters||. Being defeated by Severus, his competitor for the imperial purple, his head was struck off, and his body thrown into the Rhone, A. D. 198.

Valuing the figs at $2\frac{1}{4}d.$, the peaches at $5\frac{1}{4}d.$, the melons at $4s. 9\frac{1}{4}d.$ each; the grapes at $1s. 11\frac{1}{4}d.$ per lb. the birds at $6\frac{1}{4}d.$ each, and the oysters at 3 a penny, what is the value of the whole? *Ans.* £14 16s. 3½d.

No. 562. INDIA RUBBER.—India rubber, or elastic resin, is a substance produced from the Syringe-tree of Cayenne, Quito, and other parts of South America, and

* See Question 431, p. 241, and Chron. and Biog. Exer. art. June.

† History of Inventions, vol. iii. p. 2.

‡ Reflections, July 1, vol. ii. See also Quest. 448, p. 257.

§ See Dr. Aikin's Introd. to England Delineated.

|| See Maximinus, Index.

is possessed of the most singular properties. No substance is yet known which is so pliable, and at the same time so elastic. It oozes out, under the form of a vegetable milk, from incisions made in the tree, and is gathered chiefly in the time of rain, because it flows then most abundantly. The means employed to inspissate and indurate it are said to be kept a profound secret, though others assert that exposure to the air is sufficient to produce these effects. The Indians make boots, bottles, flambeaux, and also a kind of cloth of it; and by means of moulds form it into a variety of figures for use and ornament. A resin similar to this was discovered some years ago in the isle of France, now called by the French Re-union. It is situated East of Madagascar.

What is the value of as many pieces of India rubber, as there were persons on board the vessel in which St. Paul was shipwrecked on the island of Malta*, purchased at the third part of a guinea the half-dozen? *Ans.* £16 2s.

No. 563. MILK.—A well-known fluid prepared by Nature in the breasts of women, and the udders of other animals, for the nourishment of their young :

No beast so fierce, from Zembla's Northern strand,
To Ethiopia's barren realms of sand,
But midst her young her milky fountain shares,
With teats as numerous as the brood she rears.

ROSCOE'S NURSE.

* This small island, which at present belongs to the English \mathfrak{I} , is situated in the Mediterranean, south of Sicily, and took its name from the abundance of honey found in it. It had several commodious havens; and the inhabitants, originally a colony of Phœnicians, were formerly noted for their civility to strangers \ddagger . Their being termed barbarians in the New Testament only implies that they differed in their customs and language from the Greeks and Romans, who proudly applied this epithet to all other nations but their own. The Apostle Paul comprehends all mankind under the distinction of Greeks and Barbarians. Rom. i. 14. The Jews, by way of contempt, used to style all heathens "dogs." See Pyle's Paraphrase, vol. ii. p. 89; and particularly Dr. Doddridge on Phil. iii. 2. Fam. Expof. vol. v. p. 263.

\mathfrak{I} See Chron. and Biog. Exer.

\ddagger See AGS xxviii. 2.

It is the food most univerſally ſuited to all ages and ſtates of the body, but ſeems chiefly deſigned by Providence as the aliment of infants :

The balmy tide
Which Nature's God for infancy ſupplied.

ROSCOE'S NURSE.

That there were, however, many adults among the ancients who lived chiefly, if not entirely, upon this wholeſome and pleaſant liquid, we learn from Homer, who mentions a claſs of people

Renown'd for juſtice and for length of days,
Thrice happy race ! that, *innocent of blood,*
From *milk*, innoxious, ſought their ſimple food.

And there are at preſent in Aſia numerous communities of men that refrain from animal food of every deſcription ; living entirely upon milk, fruit, vegetables, &c. Theſe are the Banians, and other idolaters of India and China, who make a belief in the metemphychoſis * the principal foundation of their religion. And ſo extremely are they bigoted to this doctrine, that they not only forbear eating any thing that has life, but many of them even reſuſe to defend themſelves from wild beaſts. They burn no wood, leſt ſome little animalcula ſhould be in it ; and are ſo very charitable, that they will redeem from the hands of

* The term metemphychoſis is derived from two Greek words that ſignify " I animate or enliven." It means, in the ancient philoſophy, the paſſage or tranſmigration of the ſoul of man, after death, into the body of ſome other animal. Pythagoras inculcated this doctrine, and forbade the eating of fleſh : he is ſuppoſed to have borrowed the notion from the Egyptians ; or, according to others, from the ancient Brachmans †. This eminent philoſopher was born at Samos, an iſland in the Archipelago, about 590 years B. C. and was the firſt perſon that aſſerted the true ſyſtem of the univerſe. See Exer. on the Globes.

† Brachman, or bramie, an Indian philoſopher or prieſt. See Exerciſes on the Globes.

ſtrangers

strangers any animals that they find ready to be killed *. Travellers inform us, that in Tartary milk still makes a principal part of the diet of the inhabitants. Nor do the Arabs, according to Dr. Shaw, often diminish their flocks by using them for food : but live chiefly upon *milk*, bread, butter, dates, or what they receive in exchange for their wool.

Mr. Foote, in his survey of the county of Middlesex, undertaken for the Board of Agriculture, represents, that there are kept for supplying the metropolis and its environs with milk no less than 8,500 cows. Mr. Middleton also, after very diligent inquiry, concurs in the same statement, and subjoins, that each cow is supposed to afford on an average nine quarts of milk per day. This gentleman has disclosed some curious circumstances relative to the deterioration of milk in the vicinity of the metropolis; a shameful imposition, which Dr. Colquhoun includes in his list of petty frauds, justly observing, that it does not merely affect the pockets, but the health of the inhabitants of London. The milk, it appears, is always given in its genuine state to the retail dealers, who, not satisfied with 100 per cent. profit, constantly adulterate it with water, not secretly, but openly, in the milk-room belonging to the cow-keeper; and where a pump is not provided for them for this purpose, they are not even careful to use clean water; having been observed to dip their pails in a common horse-trough, or, what is still more disgusting, into streams of water impregnated with various feculent admixtures. The cream procured from this milk, poor as it is, is likewise adulterated, by being mixed with flour, chalk, and perhaps other more baneful ingredients; and yet, says

* Some of the ancient Jews, particularly the sect of the Essenes, used to eat no flesh at all, and looked upon it as a very high pitch of virtue, to abstain from it in *Gentile* countries, and to subsist entirely on vegetables; because they did not know, but any flesh sold in the shambles might have been offered to idols, or at least contracted some other ceremonial pollution. See Whitby on Romans xiv. 2. But others suppose that the apostle in *this* passage refers to such Christians as might have been Pythagoreans before their conversion. See Baxter's Works, vol. iv. p. 614, or Doddridge's Fam. Expof. vol. iv. p. 169.

Mr. Middleton, it finds a ready market in the metropolis*.

How many quarts of milk are produced annually by the above-mentioned number of cows; and what is the value of the whole at 14*d.* a gallon? *Ans.* 27,922,500 quarts; £407,203 2*s.* 6*d.* value.

No. 564. **FLANNEL.**—Flannel is a kind of slight, loose, woollen stuff, made originally in Wales, where it still continues to be manufactured in great perfection, particularly at Welsh-Pool, in Montgomeryshire.

Flannel, worn next the skin, greatly promotes insensible perspiration, and

“ Gives kindest warmth to weak enervate limbs,
“ When the pale blood flow rises thro’ the veins.”

Dr. Black expresses his surprise, that the custom of wearing flannel next the skin should not have prevailed more universally. He is confident, that it would prevent a number of diseases; and he thinks that there is no greater luxury than the comfortable sensation which arises from wearing it, especially after one is a little accustomed to it. It is a mistaken notion, says he, that it is too warm a clothing for summer. I have worn it, he adds, in the hottest climates, and at all seasons of the year, and never found the least inconvenience from it. It is the warm bath of a perspiration confined by a linen shirt, wet with sweat, that renders the summer heats of Southern climates so insupportable; but flannel promotes perspiration, and favours its evaporation; and evaporation, as is well known, produces positive cold. Dr. Beddoes, a gentleman of high distinction in the medical world, greatly approves of the use of flannels †; and moreover observes, in another popular work ‡, that in Glamorganshire and other Welsh counties, where the dress of the common people consists of a flannel shirt and a flannel jacket, the

* See the particulars quoted by Dr. Colquhoun in his *Treatise on the Police of the Metropolis*, p. 89, &c. edit. 6.

† See his *Essay on Consumptions*.

‡ *Essays on Health*, Essay iv. p. 19.

disorders which cripple *our* hempen, linen, and cotton-clad peasantry, and which materially assist in inducing that premature old age, of which they are so frequently seen to bear all the marks, are scarcely known.

It was remarked of some Bostonians who had settled in Virginia, and whose constant custom in their own country is to wear flannel next to the skin, that they escaped an epidemic fever which attacked the inhabitants, who, profiting by this discovery, were never afterwards attacked by this disease*.

If 50 pieces of flannel, each containing 48 yards, were purchased in London at 2s. 2d. per yard, and the shipping of it to America cost ten guineas, exclusively of 12 per cent. insurance: how must it be sold per yard in that country, to gain 25 per cent. upon the whole sum expended? *Ans.* 3s. 1½d. $\frac{2 \times 0 \times 4 \times 0}{2 \times 4 \times 8 \times 0}$.

No. 565. ENGLAND'S GRATEFUL TRIBUTE TO THE BRAVE.—Chelsea and Greenwich, two beautiful villages on the banks of the Thames, in the vicinity of London, are deservedly celebrated on account of their magnificent hospitals for old and decrepit soldiers and seamen. They are both noticed in an elegant modern poem:

Go, with old Thames, view CHELSEA's † glorious pile;
And ask the shatter'd hero, whence his smile?
Go, view the splendid domes of GREENWICH ‡, go;
And own what raptures from reflection flow.
Hail, noblest structures imag'd in the wave!
A nation's grateful tribute to the brave.
Hail, blest retreats from war and shipwreck, hail!
That oft arrest the wond'ring stranger's sail.

ROGERS'S *Pleasures of Memory.*

About four hundred decayed soldiers, among whom are doubtless some, who, in the vigour of their days,

“ Sought the bubble Reputation
“ Ev'n in the cannon's mouth,”

* See *Europ. Mag.* for July 1794.

† See *Chron. and Biog. Exer.*

‡ See Willoughby, *Chron. and Biog. Exer.*

find an asylum in Chelsea-Hospital; to which, moreover, belong ten thousand out-pensioners, who receive an annuity of £7 12s. 6d. each. The first projector of this superb structure was Sir Stephen Fox, grandfather to the late distinguished patriot, Mr. Charles Fox. "He could not bear," he said, "to see the common soldiers, who had spent their strength in our service, reduced to beg*;" and to this edifice he contributed £13,000. Upwards of 2,000 old disabled seamen are comfortably maintained in Greenwich-Hospital; and there are at this time (1810) 3,000 out-pensioners who receive each £7 per annum.

What is the yearly sum paid to the out-pensioners of Chelsea-Hospital? *Ans.* £76,250.

No. 366. ENGLISH CHARITY.—It has been well remarked, that notwithstanding the variety of sects of Christians which are found in England, and the diversity of religious sentiment which is the natural consequence of freedom of discussion with respect to disputed doctrines, there is no country on earth where there are more *positive* acts of religion. They do not indeed consist of rich shrines, or votive tablets consecrated to particular saints, but of efficient charity applied to every purpose, of philanthropy.

The blameless poor, the nobly maim'd †,
The lost to reason ‡, the declin'd in life,

The

* Broken under arms

In battle lopp'd away, with half their limbs,
Beg bitter bread thro' realms their valour sav'd.

YOUNG.

† See Chelsea and Greenwich, Quest. 565.

‡ Bethlem and St. Luke's Hospitals for lunatics. The former was built in 1675, by the city of London, at the expence of £17,000, on the plan of the Thuilleries, at Paris; a circumstance that greatly incensed Louis XIV. Over the gates are two capital figures of raving and melancholy madness, the works of Caius Gabriel Cibber, the father of the admirable comedian and wit Colley Cibber. Pope, it is well observed by Pennant, satirizes himself when he makes these fine figures the mere vehicle of abuse on the son, by calling them "his brazen brainless brothers." But Colley Cibber, after very long suffering, took ample revenge in a short but bitter Philippic against our great poet, which touched

The helpless young that kiss no mother's hand*,
 And the grey second infancy of age,
 She gives in public families to live,
 A fight to gladden Heaven!

THOMSON.

his pride so much as to bring him speedily to the grave. Pennant's London, p. 267, edit. 3.

St. Luke's, in Old-Street, was formed on the humane consideration, that Bethlem was incapable of receiving all the miserable objects which were offered; but is totally independent of the latter. Its original institution was in 1751, in Upper-Moorfields.

* The Foundling-Hospital for the maintenance and education of *exposed and deserted children* :

“ Poor orphans, who climb
 “ The rugged path of life without a friend †.”

This noble building was erected in Lamb's-Conduit-Fields, through the exertions of Captain THOMAS CORAM, who exhausted his whole fortune in schemes of benevolence. This celebrated philanthropist died in 1751, aged 84, and was buried, agreeably to his own directions, under the chapel of the hospital.

For an account of the ASYLUM and MAGDALEN, establishments of a most heavenly nature, calculated to save from perdition of soul and body the brighter part of the creation; with various other charitable institutions too numerous to be inserted here, our young-readers are referred to Pennant's London, and to Dr. Rees's New Cyclopædia, art. Hospital. We cannot, however, conclude this pleasing subject without mentioning that most sublime institution the HUMANE SOCIETY, which, since the year 1774, the birth of its life-saving labours, has rescued 2,869 persons from premature dissolution ‡. To have discovered the art of abridging the triumphs of death, reflects the highest honour on the ingenuity of the late lamented Dr. HAWES §: to have rendered the discovery subservient to the cause of humanity is no less creditable to his philanthropy. The late Dr. Joseph Towers, who was always ready to co-operate in any scheme of useful charity or private benevolence, had a considerable share and connection with Dr. Hawes in the original institution of the Humane Society ||. Dr. Towers died May 20, 1799. See Chron. and Biog. Exer. for a brief account of this respectable writer and worthy man; also Mr. Jones's Biog. Dict.

† Slow rises worth by poverty oppress'd.

‡ See the Annual Report for 1806.

§ See Chron. and Biog. Exer. 4th edit.

|| See the Annual Report for 1800, p. 56.

Journal; by Dr. Johnson.

England

England has moreover to exult in a list of illustrious names, dear to every friend of humanity, who made it the great business of their lives to cheer, to comfort, and to relieve individual wretchedness; and who could say, with Job, that they had been *eyes to the blind, feet to the lame, and fathers to the poor*:

“ A favourite band, whom mercy mild,
 “ God’s best lov’d attribute, adorn’d; whose gate
 “ Stood ever open to the stranger’s call;
 “ Who fed the hungry; to the thirsty lip
 “ Reach’d out the friendly cup; whose care benign
 “ From the rude blast secur’d the pilgrim’s side;
 “ Who heard the widow’s tender tale; and shook
 “ The galling shackle from the pris’ner’s feet;
 “ Who each endearing tye, each office knew
 “ Of meek-ey’d, heav’n-descended Charity:”

Heaven’s beneficent almoners to their less fortunate brethren, and who, justly appreciating the legitimate use of riches, wisely considered with one of our old poets, that

Fire may consume our houses, thieves may steal
 Our plate and jewels, all our merchandize
 Is at the mercy of the winds and seas;
 And nothing truly can be term’d our own
 But what we make our own by using well.

MAY.

We have to boast of a KYRLE*, a FIRMIN†, a

* See Quest. 261, p. 144, 145.

† Mr. THOMAS FIRMIN was a citizen of London, eminently distinguished for the greatest activity and ardour of benevolence. His judicious and extensive charities were unequalled at the time in which he lived, and appear never to have been surpassed by those of any single person. In a poem, published in honour of him soon after his death, he was “ compared, for his activity and zeal, to those ministering spirits, who, warmed with the divinest principle of love, are ever on the wing, and fly without ceasing to every place where distress calls for their aid, or they may be able to administer joy.” Mr. Cornish says, “ Mr. Firmin was always very diligent in business, but more abundantly so in acts of kindness and charity; and he justly deserved (if it be possible for a mortal to deserve) the title of a GODLIKE MAN.” He died in 1697, and was interred in Christ-Church-Hospital, London, in the cloisters of which is an inscription to his memory.

British Biography, 8vo. vol. vi. p. 378—387. CORNISH’S *Life of Mr. THOMAS FIRMIN*, 12mo. 1780.

HOWARD*, a DAY†, a COLSTON‡, a LAURENCE§,
a THORNTON, and many others, whose fortunes were
shared with the sons and daughters of affliction.

—————All their parts,
Their virtues all, collected, fought the good
Of human kind.

THOMSON.

The late Mr. Thornton, of Clapham, expended annually *two thousand pounds* in the distribution of religious books only, and his charities reached to the remotest part

* See Index.

† Mr. THOMAS DAY was the author of many excellent political productions, which breathe the genuine spirit of disinterested patriotism, and a sincere regard to the rights and liberties of mankind. And his popular "History of Sandford and Merton" will ever remain an instance of the successful application of genius to form the minds of youth to *active and manly virtue*. Considered in the light of counteracting the effeminacy and imbecility of the present manners, this history seems, in merit and in effect, to rise above any other work that has been written for children, and is indeed admirably calculated

To wake the soul by tender strokes of art,
To raise the genius, and to mend the heart.

POPE.

The larger portion of Mr. Day's income was dedicated to the relief of his fellow-creatures, and he confined his own expences within the strictest bounds of moderation and economy; both that he might be enabled to be more liberal to others, and that he might, as far as his own example could influence, resist the opposite excess of prodigality and vanity which so generally prevails. This valuable member of society was killed by a fall from his horse on the 28th of September 1789, in the 41st year of his age. He resided the last ten years of his life at Anningley, near Chertsey, in Surrey. See Mr. KERR's Life of Mr. DAY, and Chron. and Biog. Exer.

‡ Mr. EDWARD COLSTON was born at Bristol in 1636, and died at Mortlake, in Surrey, in 1721, aged 85, without decay in his understanding; without labour or sorrow. See Memorials of eminent and worthy Persons, 1741. His benefactions and charities, to an amazing extent, are enumerated in the General Biog. Dict. 15 vol. 8vo.

§ See Quæst. 559, p. 374.

THE RULE OF THREE DIRECT.

of the globe*. It is with great satisfaction we add, according to universal report, the descendants of this great, because good man, are walking in the steps of the venerable father.

Supposing the books distributed by Mr. Thornton to have been bought, on an average, for $\frac{2}{3}$ of a pound sterling the half dozen, how many would have been given away yearly†? *Ans.* 18,000.

No. 567. BEEF.—Beef is the flesh of black cattle, *i. e.* of an ox, bull, or cow, prepared for food. The most popular joint of beef is universally allowed to be the loin, which, on account of its having been once actually knighted by one of our kings ‡, in a fit of royal condescension and jocularly, is now denominated SIR-LOIN §. This ample joint has given rise to a well-known popular ballad, styled “The Roast Beef of Old England ||;” and it still continues to make a conspicuous figure at the tables of all

“ Who hospitably live,
“ And strangers with good cheer receive ¶.”

* See Chron. and Biog. Exer.

† The excellent Mr. ROBERT BOYLE spent nearly £1,000 a year in charity, principally in extending the knowledge of Christ and the Scriptures; in procuring editions of the Bible, Testament, and other religious books, to be printed in various languages, and dispersed in America, the East-Indies, the Levant, Ireland, and various other parts of the world.

‡ “The second Charles, the merry king.” See “The Knight-hood of Sir-Loin,” in a work entitled the “Merry Droll.”

Two sir-loins joined together, without having the back-bone cut asunder, are called a “Baron of Beef.”

|| While thus by our commerce and arts we are able
To see the *sir-loin* smoking hot on our table,
The *French* may e'en burst like the frog in the fable.
Oh the Roast Beef of Old England,
Oh the Old English Roast Beef!
 &c. &c. &c.

¶ The hospitality of real benevolence gives what is plain and substantial with kind looks, kind manners, and a hearty welcome. Such, says Dr. Bisset, was Burke's. See Chron. and Biog. Exer.

Thomson places the *fir-loin* at the head of his autumnal feast :

First the fuell'd chimney blazes wide ;
 The tankards foam, and the strong table groans
 Beneath the smoking *fir-loin*, stretch'd immense
 From side to side, in which, with desperate knife,
 They deep incision make, and talk the while
 Of England's glory, ne'er to be defac'd
 While hence they borrow vigour*.

Supposing four *fir-loins* of beef, weighing severally $28\frac{1}{2}$ lbs. $37\frac{1}{4}$ lbs. $45\frac{1}{2}$ lbs. and $56\frac{1}{2}$ lbs. each, were purchased at 3s. 4 $\frac{1}{2}$ d. per stone†, and sold at 7 $\frac{1}{2}$ d. per lb. what would be gained by the sale of the whole? *Ans.* £1 17s. 7 $\frac{1}{2}$ d.

No. 568. MUTTON.—Mutton is the common name of the flesh of a sheep after the animal has been killed, and has been frequently preferred to all the flesh of quadrupeds, even by persons of the highest rank, who had access to the choicest viands. Charles the Second's predilection for this wholesome aliment may be inferred from the following lines :

Here lies the mutton-eating king,
 Whose promise none relies on ;
 Who never said a foolish thing,
 Nor ever did a wise one.

They are said to have been spoken extempore by the Earl of Rochester‡ to that monarch, on his asking what epitaph would be made for him after his demise.

Mutton, besides its intrinsic excellence as a species of food, has the advantage of being more generally suited

* Salads, and eggs, and lighter fare,
 Tune the Italian spark's guitar ;
 And if I take Dan Congreve right,
 Pudding and beef make Britons fight.

PRIOR.

† See the table of the customary weight of goods.

‡ See Chron. and Biog. Exer.

to different climates: whereas beef, *e. g.* requires a very nice intermediate state, which it seems to enjoy chiefly in England; for although Scotland supplies what are esteemed excellent cattle, it is in the rich English pastures that they are brought to perfection. Now the sheep can be brought almost to the same perfection in Scotland as in the Southern countries.

Thro' all the brute creation none as sheep
To lordly man such ample tribute pay.
For him their udders yield nestareous streams;
For him their downy vestures they resign*;
For him they spread the feast †.

DYER.

It is observed in Bacon's Natural History, that the flesh of mutton is better tasted where the sheep feed upon wild

* See Wool, Index.

† It may, perhaps, be worth remarking, that the simplicity of the early ages allowed the eating of no other flesh than mutton, beef, or kid: this was the food of the heroes of Homer, and the patriarchs and warriors of the Old Testament. See Isa. xxv. 6. So likewise in the New Testament, Matt. xxiii chapter, in the parable of the marriage-feast, the king orders his servants to say that his dinner is prepared, and his *oxen* and *fatted beasts* are slain. Fishing and sowing were the arts of more luxurious nations, and came much later into Greece and the Holy Land. The sheep or lamb was also the common sacrifice of the old law; and when Moses § speaks of this kind of victim, he never omits to appoint, that the rump be laid whole on the fire of the altar. This was the most delicate part of the animal; for in the East there are sheep with extraordinary tails, that are either all fat, or of a substance between fat and marrow, weighing from twenty-five pounds to eighty each. In some places the shepherds make little carriages, on which they lay the tails of their sheep, who thus draw them about with them ¶. Dr. Hammond infers from John x. 3. that the Eastern shepherds, at least those of Judea, gave particular names to their sheep, as most men with us do to their dogs and horses. Their custom also was, according to Dr. Doddridge, to lead the sheep playing on some musical instrument. By the name of sheep the scripture often understands the people; and the Messiah † is frequently called a shepherd.

§ See Index.

¶ See the new edition of Calmet's *Dict. art. Sheep*; Fragments, No. 148, p. 110; and the plate of Syrian animals in the volume of Fragments.

† See Chron. and Biog. Exer.

thyme and wholesome herbs. Hence the mutton fed upon the delightful downs of Banstead in Surrey, which are covered with thyme, is generally allowed to be some of the sweetest and best flavoured in the kingdom.

Supposing a sheep weighing $19\frac{1}{2}$ stone were bought of a carcase-butcher at $3s. 2\frac{1}{4}d.$ a stone, and retailed, on an average, at $5\frac{1}{4}d.$ per lb. what would be gained by the sale? And if the purchaser sold two sheep every *working* day throughout a year, what would be his gains at the expiration of that period? *Ans.* $11s. 9\frac{1}{2}d.$ gained by one sheep; $\pounds 369 1s. 7d.$ by the annual sale.

No. 569. COMMISSION.—Commission is an allowance of so much per cent. to a factor, or correspondent abroad, for buying and selling goods for his employer.

What does the commission on $\pounds 529 18s. 5d.$ come to at $2\frac{1}{4}$ per cent. *i. e.* $\pounds 2 5s.$ for every hundred pounds worth of goods bought or sold by the agent, or factor? *Ans.* $\pounds 11 18s. 5\frac{1}{4}d.$

N. B. Commission is sometimes charged at 1, 2, 3, 4, &c. and $\frac{1}{8}$, $\frac{3}{8}$, $\frac{5}{8}$, or $\frac{7}{8}$ per cent.; in which case the pupil has only to convert the given fraction into shillings and pence; *e. g.* $\frac{1}{8}$ is one-eighth part of a pound, *i. e.* $2s. 6d.$; $\frac{3}{8}$ are $7s. 6d.$; $\frac{5}{8}$ are $12s. 6d.$ and $\frac{7}{8}$ are $17s. 6d.$ The more common fractions are $\frac{1}{4}$, $\frac{1}{2}$, or $\frac{3}{4}$; and these are severally $5s. 10s.$ or $15s.$

No. 570. If a factor at Manchester be allowed $7\frac{5}{8}$ per cent. for commission, what will be his demand for laying out $\pounds 1,200.$ *Ans.* $\pounds 91 10s.$

No. 571. BROKERAGE.—Brokerage is an allowance of so much per cent. to a person called a broker, for assisting merchants or factors in procuring or disposing of goods.

What is the brokerage of $\pounds 610$ at $\frac{1}{4}$ per cent. expended at Liverpool? *Ans.* $\pounds 1 10s. 6d.$

No. 572. INSURANCE.—Insurance is a premium of so much per cent. given to certain persons and offices for a security of making good the loss of ships, merchandizes, houses, &c. which may happen from storms, being captured

tured at sea in time of war, conflagration, &c. The premium on houses, &c. insured from fire, is from 2s. to 5s. per cent. according to the business, situation of the premises, &c. exclusively of the king's duty of 2s. 6d. per cent. The insurance upon ships, &c. from one port to another, varies according to the risk; and, in time of war especially, is sometimes very high.

What is the insurance of goods valued at £900, at $10\frac{1}{2}$ per cent. from the port of London to Philadelphia in America? *Ans.* £96 15s.

No. 573. **BUYING AND SELLING STOCK.**—Stock is a general name for the capitals of our trading companies; and the purchasing and disposing of certain sums of money in those funds, is now become a general practice*.

If £650 stock be purchased in London at $90\frac{1}{2}$ per cent. and the broker be paid the usual sum of $\frac{1}{8}$, or 2s. 6d. per cent. for his trouble, what does the whole amount to? *Ans.* £588 5s.

No. 574. How much stock in the 3 per cents. at $62\frac{1}{8}$ per cent. can be purchased for £372 15s. exclusive of the brokerage? *Ans.* £600.

No. 575. What interest per hundred pounds sterling do the 3 per cents. produce, when they are purchased at $62\frac{1}{8}$? *Ans.* £4 16s. 6 $\frac{1}{2}$ d.

No. 576. At what price must the 3 and 4 per cents. be bought, that the purchaser may receive 5 per cent. interest for every £100 sterling invested in those stocks? *Ans.* £60 and £80.

No. 577. **DISCOUNT.**—Discount is an allowance made for the payment of any sum of money before it becomes due; and is the difference between that sum due some time hence, and its present worth.

The present worth of any sum of money, or debt, due some time hence, is such a sum as, if put to interest, would, in that time, and at the rate per cent. for which the discount is to be made, amount to the sum or debt

* See Debt, National, Index.

then due: *e. g.* £100 present money would discharge a debt of £105 to be paid a year to come, discount being made at 5 per cent.

RULE. As £100 with the addition of the interest* for the time given, is to that interest, so is the sum proposed in the question, to the discount required; which discount, subtracted from the given sum, leaves the present worth.

No. 578. How much ready money can I receive at Wexford, for a note of £75 due 15 months hence, at 5 per cent.? *Ans.* £70 11s. 9¼d.

No. 579. What is the present worth of £500 payable at Marton in 10 months, at 5 per cent. per annum? *Ans.* £480.

No. 580. What is the discount of £275 10s. for 7 months, at 5 per cent. per annum? *Ans.* £7 16s. 1¼d.

No. 581. What are the discount and present worth of £573 15s. due 3 years hence, at 4½ per cent.? *Ans.* £68 4s. 10¼d. discount—£505 10s. 1¼d. present worth.

No. 582. **BARTER, STARCH, CURRANTS.**—Barter is the exchanging of one commodity for another, and directs traders so to proportion their goods, that neither party may sustain loss.

STARCH is a sediment found at the bottom of vessels wherein wheat has been steeped in water. The best sort is white, soft, and friable; easily broken into powder. It is used to stiffen and clear linen, with powder blue, and its powder is employed to powder the hair. This perversion of wheat is noticed by one of the ablest female writers of the present age:

For man's support design'd, I spring from earth,
But man perverts the purpose of my birth;

* The interest may be found by the rule of three; or by multiplying the principal by the rate per cent. and dividing the product by 100, and the quotient will be the answer for one year. See Interest, Index.

I take new forms beneath his plastic hand,
 And either sex my services command.
 The flowing lawn in stricter forms I hold,
 And bind in chains unseen, each swelling fold.
 The band beneath a double chin I grace,
 And form the plaits which edge the Quaker's face.
 By me great Bess*, her maids who us'd to cuff †,
 Shone in the stiffness of a full-quill'd ruff.

Mrs. BARBAULD.

CURRENTS, in commerce, are a small dried grape, properly, says Dr. Johnson, written *corinths*, from Corinth, in Greece, where they were first propagated; but this place now produces no more, the plantations having been long neglected. They are, at present, brought chiefly from the island of Zante ‡, in the Ionian sea:

“ From

• Queen Elizabeth.

† Her Majesty also, it is well known, boxed the ears of her prime favourite, the Earl of Essex. In one of the curious letters of Rowland White, he says, “ The queen has of late used the fair Mrs. Bridges with words and blows of anger.” In a subsequent letter, he observes, “ The earl [of Essex] is again fallen in love with his fairest Bridges. It cannot chuse but come to the queen's ear, and then he is undone.”

It is recorded of the accomplished and beautiful Cleopatra, that she once kicked her steward about the room. See *Quest. 27*, p. 35. and *Exer. on the Globes*.

‡ Zante is the most valuable, though not the most extensive of the Greek islands: it is situated near the South-Western coast of Turkey in Europe. There are, says Mr. Watkins, but few ships bound to the Adriatic that do not touch here; some of them take in cargoes of currants. This rich and wholesome article of consumption is the dried fruit of grapes, which are peculiar to a few of these islands, and to part of the Morea, which carries on a considerable trade in this article. They are as inferior in size as superior in flavour to all others; indeed, continues Mr. Watkins, I think them the most delicious I ever tasted. There are two sorts, the black and the purple. They are ripe in July, but are not gathered till August; when they are exposed to the sun till dried, then put into hogheads and trodden down by *naked feet*, to compress and to preserve them the better. Zante freights six or seven ships annually, and Cephalonia four, the greater number of which are English. Mr. WATKINS'S *TRAV.* vol. ii. p. 162, 328. Zante and some other of the Ionian isles surrendered to the British arms. Oct. 2, 1809; and we have

“ From soft Ionian isles, well known to fame,
 “ (Ulysses’* once) the luscious currant came.”

They do not grow on bushes, but on vines, like other grapes.

How much Bristol starch at $11\frac{1}{2}d.$ per lb must be given in barter for 20 cwt. of currants, at $8d.$ per lb? *Ans.* 13 cwt. 3 qrs. 18 lb 4 oz. 2 dr. $\frac{3}{4}$.

No. 583. How much tea at $9s.$ per lb can be had in barter for 4 cwt. 2 qrs. of Bayonne chocolate at $4s.$ per lb? *Ans.* 2 cwt.

No. 584. What quantity of Maltese cotton at $1s. 2d.$ a lb must be given for 114 lb of Lisbon sugar at $6d.$ a lb? *Ans.* 48 lb $\frac{1}{2}$.

No. 585. Two persons at Waterford barter; one has 20 cwt. of Cheshire cheese at $21s. 6d.$ per cwt. the other 8 pieces of Colerain linen at $\pounds 3 14s.$ per piece: what is the difference? *Ans.* $\pounds 8 2s.$

since obtained possession of St. Maura. These islands belong to a group recently denominated “ The Ionian Republic,” or “ The Republic of Seven Islands.” They formerly appertained to Venice, then to the Turks, and afterwards to the Russians, who relinquished them to the French. See BOURN’S Gaz.

* Ulysses, father of Telemachus, and the wisest of all the Greeks in the Trojan war, was king of Ithaca, a small, rocky, unfertile island, situated a few miles E. by N. of Cephalenia, now Cephalonia. See Cellarius’s Geographia Antiqua, or Moll’s Geog. Classica.— Ithaca, says a modern traveller, is a truly wretched country; but it has five or six excellent anchorage-places.

‘Tis rough indeed, yet breeds a generous race.

HOMER.

THE RULE OF THREE INVERSE

TEACHES, by having three numbers given, to find a fourth, that shall have the same proportion to the second as the third has to the first, in an inverted order.

R U L E.

State and reduce the terms as in the preceding rule: multiply the first and second terms together, and divide their product by the third; the quotient will be the answer to the question in the same denomination as that in which the second term was left. See the Rule of Three Direct, p. 330.

E X A M P L E S.

No. 586. **SHALLOON.**—Shalloon is a slight woollen stuff, supposed to have received its name from Chalons-sur-Marne, in the department of Marne, France, where it still continues to be manufactured. What quantity of shalloon, 3 quarters of a yard wide, will line $7\frac{1}{2}$ yards of cloth that is $1\frac{1}{2}$ yard wide? *Ans.* 15 yards.

No. 587. If a person lend another the sum of £200 for 12 months, how many months should the latter lend the former £150, to requite the obligation? *Ans.* 16 months.

No. 588. How many yards of matting, 2 feet 6 inches wide, will cover a floor that is 27 feet long and 20 feet broad? *Ans.* 72 yards.

No. 589. **CAMBLOT.**—This is a cloth made chiefly of goat's hair; a sort of woollen stuff or camlet*.

* See Quest. 148, p. 78.

Mean time the pastor shears their hoary beards,
 And eases of their hair the loaden herds:
 Their camelots, warm in tents, the foldier hold;
 And shield the shiv'ring mariner from cold.

DRYDEN'S VIRGIL.

If 36 men could weave* 20 pieces of camelot in 18 days, how many days would 27 men require to complete the same? *Ans.* 16 days.

No. 590. CRAPE.—Crape, said to have been invented at Bologna in Italy, is a thin stuff, loosely woven, of which the dress of the clergy is sometimes made:

'Tis from high life high characters are drawn;
 A faint in crape is twice a faint in lawn.

POPE.

If 100 men could finish a certain number of pieces of crape in 24 days, how many are sufficient to perform the same in 6 days? *Ans.* 400.

No. 591. LAWN.—Lawn is a fine linen, remarkable for being used in the sleeves of bishops. See the preceding Question.

What awe did the slow solemn knell inspire;
 The duties by the lawn-rob'd prelate pay'd,
 And the last words, that dust to dust convey'd!

TICKELL.

How many yards of lawn ell-wide are equal to 19 yards of linen which is only yard-wide? *Ans.* 15 yards, 0 qrs. 8 n. $\frac{1}{2}$.

No. 592. GROGRAM.—Grogram is a sort of stuff made of silk and mohair †, being in reality no more than a taffety, or thin silk, coarser and thicker than ordinary:

* See Weaving, Index, and Exercises on the Globes, art. Augur.

† See Quest. 206, p. 94.

Plain Goody would no longer down;
'Twas Madam in her grogram gown.

SWIFT.

How many yards of grogram, three-quarters wide, are equal in measure to thirty yards of five-quarters wide? —
Ans. 50.

No. 593. MUSLIN.—Muslin is a fine cloth made wholly of cotton; so called, as not being bare, but having a downy knap on its surface resembling moss, which the French call *mouffe*.

In half-whipt muslin needles usefess lie,
And shuttlecocks across the counter fly.

GAY.

The best muslins are fabricated in the East-Indies, chiefly in Bengal: and Dacca, or Decca, in that province, has been long famous for manufacturing a superior fort, that are much in request among our lovely countrywomen, who have recently adopted a species of attire at once easy, graceful, and becoming. The disgusting deformities of stiffened stays, whalebone petticoats, and unmeaning flounces of many-coloured frippery, now yield to the artless elegance of muslin and cambric* decoration: thus health is preserved by an unconstrained motion of the body; and beauty is ascertained by the unequivocal testimonies of symmetry and nature. The Turkish robe, the Grecian drapery, the simplicity of the French peasant, and the unrivalled graces of English proportion, being at length happily united, present to the gratified beholder the most attractive models of dignity and taste.

How many yards of taffety, three-quarters broad, will line a muslin cloak that is $5\frac{1}{2}$ yards long and $1\frac{1}{2}$ yard broad? *Ans.* 9 yds. 0 qrs. $2\frac{2}{3}$ nails.

No. 594. CARPETS.—A carpet is a sort of covering, worked either with a needle or on a loom, to be spread

* See Quest. 426, p. 268.

on a table, a passage, or a floor. Persian and Turkey carpets are those most prized, especially the former, some of which are exquisitely beautiful.

It must at an early period have been found advantageous, both in point of ease and healthfulness, to have a carpet spread upon the ground on which persons sat that dwelt in tents; a custom too that we find in after times was adopted by the inhabitants of houses; but how soon this began to be practised it is impossible to say; though it is proved to have been in use in the East, even in their temples, as early at least as the days of Amos, about 800 years B. C. as appears by a passage in that prophet*. So late, however, as the twelfth century, it was deemed an article of great luxury in this country to have the floors covered even with straw; and it is mentioned as an instance of the haughty Becket's† splendid style of living, that his sumptuous apartments were every day in winter strewed with clean straw or hay, and in summer with green rushes or boughs‡.

The carpet manufacture is said to have been introduced into France from Persia, in the reign of Henry IV: §. The art was brought to London in 1750, by two men who quitted France in disgust, and came here to procure employment. This they obtained from the late Mr. Moore||, who, by risking a very considerable expence, succeeded in establishing this important and useful manufacture, and by whose ingenuity and perseverance it has been brought to a very high degree of perfection. We have also manufactories for carpets that are much esteemed at Axminster, Wilton, Kidderminster, and other places.

How many yards of carpeting, 3 qrs. broad, will

* See chap. ii. ver. 8. also Harmer's Observations, vol. iv. p. 377.

† See Chron. and Biog. Exer.

‡ See Hume, vol. i. p. 384.

§ Henry IV. was born in 1553, and assassinated in 1610. See Chron. and Biog. Exer.

|| Mr. Moore built Moore-Place, which now forms the Western side of Finsbury-Square, where he resided many years.

cover a room which is 3 yards in length and 4 in breadth?
Ans. 16 yards.

No. 595. UMBRELLA.—Umbrella is a screen employed in hot countries to keep off the sun, and in others to bear off the rain.

Good housewives,
 Defended by th' umbrella's oily shed,
 Safe through the wet on clinking pattens tread.

GAY.

An umbrella is not only a very ancient, but, in some places, a very *honourable* defence against the pernicious effects of the scorching beams of the sun, more especially in the sultry regions. To this kind of shade some suppose the Psalmist refers in the 5th verse of the 121st Psalm. It appears also by the carvings at Persepolis*, that umbrellas were used in very remote periods by the Eastern princes. Niebuhr, who visited the southern part of Arabia, informs us, that he saw a great prince of that country returning from a mosque on a Friday, the sacred day of all the Mahometans, preceded by some hundreds of soldiers; and that he, and each of the princes of his numerous family, caused a large umbrella to be carried by his side: a privilege, he adds, which, in that country, is appropriated solely to the princes of the blood.

It is said, that the first person who used an umbrella in the streets of London, was the benevolent Jonas Hanway, who died in 1786. He was born at Portsmouth in 1712, and was distinguished through life for his public and private charities. See Chron. and Biog. Exer. 4th edit.

If six men could make a certain number of umbrellas in three days, how many men could make the same number in six days? *Ans.* Three men.

No. 596. VINEGAR.—Vinegar is usually made of wine, beer, or cyder, by setting the vessel against the hot sun:

* See Schiras wine, p. 290.

Heav'n's blest beam turns vinegar more four.

POPE.

The ancients had several kinds of vinegar, which they used for drink. The Roman soldiers were accustomed to take it in their marches. The Bible represents Boaz, a rich citizen of Bethlehem*, as providing vinegar for his reapers, into which they might dip their bread, and kindly inviting the amiable Ruth to share with them in their repast †; hence we may infer that the harvesters, at that period, partook of this liquid for their refreshment; a custom still prevalent in Spain and Italy. It is conjectured, that the vinegar which the Roman soldiers offered to our Saviour at his crucifixion ‡, was that which they used for their own drinking. There was, however, a kind of potent vinegar, which was not proper for drinking; at least, till well diluted §. We must distinguish then between that vinegar, or small wine, which was used as a drink, and that which was of considerable strength, and employed in fauces. Some suppose that oil was usually mingled with the vinegar which was taken as a beverage. The Algerines even indulge their miserable captives with a small portion of oil to the vinegar which they allow

* Bethlehem, a city of Judah, was situated on the declivity of a hill, six miles from Jerusalem. It is sometimes styled, "The city of David," on account of its having given birth to that celebrated king; but it owes its celebrity solely to the Messiah's having been born in it, as it was never considerable either for extent or riches.

† Ruth, ii. 14. It may not, perhaps, be useless to inform our young readers, that the beautiful story of Lavinia, in Thomson's Seasons, is taken from this portion of Scripture. See also on this subject, Exer. on the Globes, edit. 4, p. 70, 71; or Index, art. White.

‡ Matt. xxvii. 48. Dr. Willan observes, that (although the soldiers and lower class of people among the Jews made use of vinegar, when mixed with water, for a common drink) the Jews of better rank looked on an offer of vinegar to drink as the greatest affront and outrage; as will appear, he subjoins, from a remarkable passage in Psalm lxix. 21, 22, compared with Lament. iii. 15, &c. See Dr. WILLAN'S United Gospel, edit. 3, p. 220. See also Quest. 484, p. 295.

§ See Psalm lxix. 21. and compare Prov. x. 26.

them

them with their bread. Pitts, in the account of the treatment that he and his companions received from those pirates, of which he complains with some asperity, says that his allowance was five or six spoonfuls of vinegar, half a spoonful of oil, a small quantity of black biscuit, a pint of water, and a few olives, a day*.

At Mr. Beaufoy's vinegar-manufactory at Lambeth†, there is a vessel which contains 56,790 gallons of vinegar‡, besides a number of others which hold from 32,500 to 16,900 gallons each. See Pennant's London.

If 9,600 soldiers, in marching from Urbino to Brindisi, could drink a portion of vinegar in six months, how long would the same portion last 7,200? *Ans.* 8 months.

THE DOUBLE RULE OF THREE,

OR

RULE OF FIVE,

TEACHES to solve such questions as require two or more statings by simple proportion; and that whether they are direct or inverse. It is composed of five terms, or numbers, which are given to find a sixth.

RULE. Put the principal cause of loss or gain, increase or diminution, in the first place; that which denotes time, distance of place, &c. in the second; and the

* Mr. Joseph Pitts was taken prisoner, when very young, by the Algerines, and sold for a slave. He published "A faithful account of the Religion and Manners of the Mahometans." The third edit. was printed in 1731. He then resided at Exeter, in Devonshire.

† See Domestic Wines, p. 286.

‡ The use of vinegar in putridinous contagions is noticed in *Quest.* 559, p. 374.

number

number immediately connected with these two in the third place. Place the two remaining terms under their like in the supposition. If the blank fall under the third term, multiply the first and second terms together for a divisor, and the other three for a dividend. But if it fall under the first or second term, multiply the third and fourth terms for a divisor, and the other three for a dividend, and in either case the quotient will be the answer.

E X A M P L E S.

No. 597. DATES. — These are the fruit of the palm-tree*. They are generally used by us in medicine; being detergent, astringent, and good against diseases of the throat. Our dates are brought to us from Egypt, Syria, Africa, and the Indies. The best come from Tunis and Persia. Among the Egyptians and Africans they make a principal article of food, but are deemed an unwholesome diet; and persons who eat great quantities of them are said to become scorbutic, and lose their teeth betimes. Some assert, however, that they are a great restorative to dry and exhausted bodies, by augmenting the radical moisture. One particular species called *Palma Aegyptiaca*, has been much commended for its virtues against drought:

Fruits of the palm-tree, pleasantest to thirst
And hunger both.

MILTON.

If 36 boxes, each having 500 dates, be consumed by 27 persons in 24 weeks, how many boxes, each containing the same number, would serve 72 men for 48 weeks;
Ans. 192.

No. 598: LEVERIAN MUSEUM †. — This magnificent and astonishing collection of natural history was originally exhibited to public view at Leicester-House, by its inde-

* See Palm-wine, p. 275.

† Museum denotes a repository of curiosities. A brief account of the British Museum is given in the Chron. and Biog. Exer.

fatigable

fatigable founder, the late Sir Ashton Lever*. To the disgrace of our kingdom, as Mr. Pennant justly remarks, it became neglected almost as soon as the first burst of wonder was over: and when, in 1785, it was offered to the public, by the chance of a guinea lottery, only 8,000, out of 36,000 tickets were sold. Finally, the capricious goddess Fortune frowned on the spirited possessor of such a number of tickets, and transferred the invaluable treasure to the holder of only two, Mr. Parkinson, who, however, appears to have well merited the favour. That gentleman soon after built a place adjacent to the Surrey side of Blackfriars-Bridge, expressly for its reception, and disposed the rooms with so much judgment, as to give a most advantageous view of the numerous curiosities. The want of public encouragement, however, induced Mr. Parkinson to dispose of this elegant and instructive collection in various lots; and the building has been recently fitted up for the Surrey Institution, which was opened on the 25th of March 1808†.

There is now (1810) at No. 22, the East end of Piccadilly, an exhibition of natural and foreign curiosities, antiquities, and productions of the fine arts, called the LIVERPOOL MUSEUM, from the circumstance of its having been originally formed in that town, by the unwearied zeal and liberal exertions of the ingenious Mr. WILLIAM BULLOCK, at the expense of more than £22,000 sterling. This attractive assemblage consists of upwards of seven thousand different articles, and is supposed to be one of the most complete of its kind in Europe. The price of admission to this "world of wonders" is only the trifling

* Sir Ashton Lever was the son of Sir D'Arcy Lever, of Alkington, near Manchester. After receiving an university education he settled at his family seat, which he soon rendered famous by the best aviary in the kingdom, and afterwards extended his views to all branches of natural history; a pursuit that eventually greatly impaired his fortune. See Chron. and Biog. Exer.

† The design of this Institution is, in some degree, similar to those of the ROYAL INSTITUTION in Albemarle-Street, and the LONDON INSTITUTION in the Old Jewry; viz. to promote the diffusion of science, literature, and the arts. The last mentioned establishments, as that admirable and popular writer Mr. Edgeworth truly observes, are unequivocal proofs of the liberality, the love of knowledge of all sorts, and the splendid munificence of BRITAIN.

sum of a shilling each person, or ten shillings and sixpence for a perpetual ticket.

If a gentleman, his wife, and five children, could be admitted to the LIVERPOOL MUSEUM six times for two guineas, how many times could two governesses, each accompanied by half a dozen young ladies, be admitted for triple that sum? *Ans.* 9 times.

No. 599. WATER.—Water is a liquid body, one of the four elements*, and the chief ingredient in all animal fluids and solids: even bones dead and dried twenty-five years have, by distillation, yielded half their weight in water. This admirable liquid is, in fact, the grand support of the material nature; that which enables her to bring forth all her vegetable offspring, and to nurse up all her animated inhabitants: being, in short, to the terraqueous globe, what the vital fluid is to the human body: or, as a poet very elegantly sings,

The crystal element,
The chief ingredient in heaven's various works;
Whose flexile genius sparkles in the gem,
Grows firm in oak, and fugitive in wine;
The vehicle, the source of nutriment
And life, to all that vegetate or live.

DR. ARMSTRONG'S *Poem on Health.*

It is asserted, in consequence of experiments made by an eminent philosopher, that an acre of ground, even after having been parched by the heat of the sun in summer, dispersed into the air, above 1600 gallons of water in the space of twelve of the hottest hours of the day†. From the plenteous stock of water which all bodies afford, Arbuthnot infers that it is the proper drink for every animal. As a food, it is, indeed, one of the most universal drinks in the world; and, if we may credit many of our latest and most judicious physicians, one of the best too, on account of its potent digestive qualities. As a beverage, that which is purest, lightest, most transparent, colourless, void

* The other three are earth, fire, and air.

† See WATSON'S *Chemical Essays*, vol. iii. p. 52—56.

of taste and smell, is deemed the best. It has been proved by many instances, that water *alone* is capable of sustaining human life a long time*. As a medicine, it is found, internally, a powerful febrifuge, and excellent against colds, coughs, the scurvy, &c. ; externally, its effects are no less considerable†.

Tournefort mentions a Venetian consul, who resided at Smyrna, that lived to the age of 118 years, and never drank any thing but water ; which is said to be the universal and only liquor of the New Zealanders, who enjoy the most perfect and uninterrupted health, entirely untainted with disease ; not a single person having been seen by Captain Cook that had any bodily complaint ; nor, among the numbers that presented themselves to that renowned navigator, in a state of nudity, was there an individual perceived who had even the slightest eruption upon the skin, or the least mark which indicated that any had formerly existed. It may, perhaps, be worthy of notice, that two of the most athletic characters of antiquity, and a modern hero, whose intrepidity was long the admiration of all Europe, were among the practical advocates of this wholesome element‡. That water is not an incentive to vice, like many of the liquors in common use, and that its votaries are exempt from the disgrace of ebriety, has been observed by Shakspeare : “ Honest water,” says the immortal bard, “ is too weak to be a sinner ; it ne'er left man i' th' mire :” whereas “ strong drink,” as Solomon remarks, “ is raging ; and whosoever is deceived thereby is not wise.”

* See Dr. Rees's Cyclop. art. Water.

† Among the many admirable regulations that render the metropolis of England superior to that of any other country, that strongly mark the wisdom of our ancestors, and evince the attention they paid to the convenience, the cleanliness, and the health of the inhabitants, was the introduction of water by means of pipes. This beneficial plan was first adopted, in a partial manner, in the reign of Henry III. about the year 1237 ; and in 1613, in the time of James I. the New River was completed ; when a general distribution of this necessary liquid immediately ensued. See Middleton, Sir Hugh, and Sept. 29. 1613. Chron. and Biog. Exer.

‡ See Chron. and Biog. Exer. art. Hector, Samson, and Heathfield.

The ancients usually diluted their wines with a considerable quantity of water* ; a custom that even the "tuneful Teian," of far-famed bacchanalian memory, appears to have functioned by his own example :

Bring hither, boy, a mighty bowl,
And let me quench my thirsty soul ;
Fill two parts water, fill it high,
Add one of wine, for I am dry ;
Thus let the limpid stream allay
The jolly god's † too potent sway.

ANACREON ‡.

If in 168 days 351 quarts of water were drank by 939 sailors, how many men would consume 351 gallons in 56 days? *Ans.* 11,268.

No. 600. PILCHARDS.—The pilchard is a small salt-water fish, larger than an anchovy §, but smaller than the herring, which in other respects it resembles. They abound in the Mediterranean sea, but are fish of passage. The chief pilchard fisheries are along the coasts of Dalmatia, in the gulf of Venice ; on the coast of France, between Belle-Isle and Brest ; and along the shores of Cornwall and Devonshire. It is a saying of the Cornish men, that the pilchard is the smallest fish in size, the most in number, and the greatest in gain, of any that they take out of the sea ; an observation amply confirmed by Borlase's || account of this fishery. The number obtained at one shooting out of the nets is amazingly great. In 1767, there were at one time enclosed in St. Ives's bay, Cornwall, 7,000 hogsheds, each containing 35,000 fish ; in all 245,000,000. The cash paid annually, on an average of ten years, for pilchards exported from Cornwall, amounted to £49,532 10s.

* Madame Dacier observes, that Hesiod prescribes three measures of water to one of wine, in summer.

† See Bacchus, Exercises on the Globes.

‡ See Quest. 310, p. 158.

§ See Quest. 144, p. 76.

|| See Chron. and Biog. Exer.

Suppose

Suppose 6 men could barrel up 24 hogheads of pilchards in 2 days, how many days would 100 men require to fill the number of hogheads above mentioned? *Ans.* 35 days.

No. 601. SALMON.—The salmon is a Northern fish, being unknown in the Mediterranean sea, and other warm climates, and, according to some, breeds in the sea; but the opinion of others seems better warranted, that it propagates in the clear sandy parts of rivers, remote from their mouths; hence Walton, the celebrated angler*, styles the salmon the king of fresh-water fish; and by others it is called the monarch of the rivers. The chief salmon fisheries in Europe are along the coasts of England, Scotland, and Ireland. The fishing usually begins about the first of January, and ends by the last of September. There are stationary fisheries in Iceland, Norway, and the Baltic; but those at Cranna, on the river Ban, near Coleraine, in Ireland; at Berwick upon the Tweed; and those on the Don and Dee and other Scotch rivers, are the most considerable. The fisheries on the Tweed are valued at £5,400 per annum. The capture of salmon in this river about the month of July is prodigious, it being common to take from 50 to 100 fish at one haul of the net. Great numbers of these are sent to London in ice, which, it has been recently found, preserves them fresh for a considerable time. In consequence of this discovery, several ice-houses have been lately built at Berwick; and the quantity of ice put into them yearly is astonishing. Dr. Fuller, in his history of this town, says, that the two companies laid in 7,600 cart loads between them in the winter of 1798, at the expence of about £450.

If the contents of 24 carts could be deposited in the ice-houses† in three days by six men, how long would
475 men

* See Hawkins, Sir John, Index.

† It may perhaps amuse some of our young readers to be informed, that a human habitation has been constructed of ice. In the hard winter of 1740, the Empress of Russia (Elizabeth Petrowna) gave a comic entertainment, on account of the wedding of Prince Gallitzin; and, among other extraordinary preparations, had a house built wholly of ice. It consisted of two chambers; and the entire furniture was fabricated of the same brittle materials, as were also four small cannons

475 men take to empty the number of carts mentioned above? *Ans.* 12 days.

No. 602. HERRINGS.—The great colony of herrings, we are told, sets out from the Icy Sea about the middle of winter, composed of such numbers as exceed all powers of imagination*. The main body begins in a certain latitude to separate into two grand divisions, one of which moves Westward, and pours down the coast of America; the other takes a more Eastern direction, and falls in with the great island of Iceland about the beginning of March. The Shetland Isles oblige them again to divide into two shoals, which shape their coast along the Eastern and Western coasts of the British Isles; and the last are observed to be much larger and fatter, as well as considerably more abundant, than those on the East side. The immediate cause of their migration† is supposed to be their strong desire to remove to warmer seas, for the sake of depositing their spawn, where it will vivify with more certainty than under the frigid zone. It cannot be from defect of food that they leave the polar regions, whatever that food may be, for they come to us full of fat, and on their return are generally observed to be very lean‡. The inestimable benefit which this plentiful supply of food would prove to the wretched peasantry of the Western coasts of Scotland, is, however, says Dr. Gar-

and two mortars. The former were fired several times, with half an ounce of powder in each, without bursting; and small wooden grenades were thrown out of the latter without their sustaining the least injury. Mr. Cowper, in the 5th book of his admirable poem entitled *THE TASK*, has given a masterly delineation of this imperial freak, "The Wonder of the North."

* See the Cyclop. and the Ency. Brit.

† See Exercises on the Globes, art. Migration.

‡ From a series of facts, and judicious observations on the migrations of the herring, by Dr. Anderson, inserted in the 6th volume of his "Recreations" recently published, it would appear, that the commonly received opinion of the annual passage of this genus of fish from the polar regions is erroneous; but for the particulars we must refer our young readers to that entertaining performance.

nett*, in a great measure prevented by the impolicy of the salt-laws: a remark that cannot fail to remind many of his readers of Thomson's pathetic lines on the same subject:

Oh, is there not some patriot, in whose power
That best, that god-like luxury is placed,
Of blessing thousands, thousands yet unborn,
Thro' late posterity? some large of soul,
To cheer dejected industry? to give
A double harvest to the pining swain,
And teach the labouring hand the sweets of toil?
——— with venturous oar
How to dash wide the billow; nor look on,
Shamefully passive, while Batavian † fleets
Defraud us of the glittering finny swarms,
That heave our friths, and crowd upon our shores?

Our countrymen have been long reproached, and apparently with a good deal of justice, for their remissness in this lucrative branch of commerce. The advantageous situation of our coasts might be of immense benefit to us, did we not permit the Dutch ‡, Hamburgers, and others, to

* See the late Dr. Garnett's Tour through the Highlands of Scotland, published in 1800.

† Batavia, the seat of the Batavi, who make so considerable a figure in the Roman history, is supposed to have been a district of Holland, between the rivers Lech and Maese. The word is often used to denote the whole country; and sometimes its inhabitants are designated by this term:

Batavia rushes forth.

THOMSON'S WINTER, line 668.

‡ The Hollanders were the first who began the herring-fishery, and observed the several seasons of their passing, about the year 1164: but the present method of pickling them was not discovered till 1416, though others date it from the year 1397. Willoughby, in his history of fishes, observes, that William Buckelfz, or Bachalen §, a native of Bier Olijet, rendered his name immortal by the discovery of the secret of curing and pickling herrings, which he might probably have learned from the people of Yarmouth, where herrings were not

§ Pennant, Brit. Zool. vol. iii. art. Herrings, spells this name Benkelen; others Bruckfield or Buckellags. See Bier Olijet, Ency. Brit.

to come yearly in vast numbers, and not only take the fish from our own coasts, but sell them to us for our money, when they have done. Scotland, it is generally allowed, suffers incredibly on this score: no country in Europe can pretend to rival it in the abundance of the finest fish wherewith its numerous harbours, lakes, and rivers, are stored. The Scottish islands, especially those on the Western side, do certainly lie most commodiously for carrying on the fishing-trade to the utmost perfection. Had, says Mr. Belsham, a tenth part of the immense sums dissipated and squandered in Italian and German subsidies been employed in erecting towns, forming canals, building vessels, and procuring implements, in order to carry on the fisheries to advantage on the spot, the Highlands of Scotland might, at this day, have exhibited a smiling scene of industry and plenty, instead of presenting to our view the cheerless aspect of poverty and wretchedness, or rather the hideous picture of solitude and desolation*. That the natives of some parts of these districts are not, however, wholly inattentive to the piscatory occupation is amply confirmed by two respectable tourists. Loch-Fyne, says the Rev. Mr. Gilpin, is a salt lake communicating with the sea. It has a crowded navigation, being one of the favourite haunts of the herring, and at certain seasons of the year is frequented by innumerable shoals, insomuch that the lake is said to contain *one part water and two parts fish*†. In a single bay of this lake above 600

only salted and dried for red herrings, but salted and barrelled up wet, at different times, from the year 1306 to 1360. He adds, that the Emperor Charles V. || coming into the Low Countries, made a journey to the isle Bier Uliet, with the Queen of Hungary, on purpose to view the tomb of this first barreller of herrings, who died in 1447 ¶.

Bier Uliet, or Bier Oliet, is situated a few miles East of Sluys, in the late Dutch Flanders. See the New Fol. Atlas to Guthrie's Geo. Gram. or Wilkinson's Gen. Atlas.

* Memoirs, vol. ii. p. 186, edit. 1.

† Hence fisheries have been aptly denominated "a mine under water."

|| See Chron. and Biog. Exer.

¶ See Blainville's Trav. vol. i. p. 17; though some date his death in 1396 or 1397.

boats are sometimes employed in taking them*. Each of these vessels clears on an average annually from £40 to £50, according to Dr. Garnett, who adds, that 20,000 barrels, each on a medium containing 700 herrings, have been caught and cured in one season in Loch-Fyne.

If two boats could take four thousand herrings in six days, how many weeks (exclusive of Sundays) would the number of boats mentioned above require to take the entire quantity of fish specified by Dr. Garnett? *Ans.* 11 weeks 4 days.

No. 603. MANTUA-MAKER.—A mantua-maker is one who makes mantuas or gowns for women. The word mantua is by some supposed to be corrupted from *manteau*, French. Others assert, that a court gown was early known in England by the name of mantua, either from its having been invented at Mantua, in the North of Italy, or from the celebrated Manto †, in honour of whom that famous city was built, by her son Bianor, or Ocnus, about 1,000 years B. C.

If 32 mantua-makers could make 24 gowns in 8 days, how many gowns could 16 mantua-makers make in 6 days? *Ans.* 9.

No. 604. MILLINER.—A milliner is one who sells ribands and dresses for women. The term is generally supposed to be derived from Milan, a considerable city in the North of Italy, the inhabitants of which are said to have been the first that made female head-dresses.

The various occupations assigned to the different sexes, in our metropolis, are now so preposterously abused, that a reformation is become absolutely necessary. It is no uncommon thing to see men employed in the most effeminate branches of art and commerce; and those departments of trade in which women might acquire independence,

* Tour, vol. i. p. 182, &c. where our young readers will find a very entertaining description of this fishery.

† Manto was a native of Thebes in Greece; she established an oracle of Apollo in Ionia, a district of Asia Minor, and afterwards visited Italy, and received divine honours after her death.

§ See Exer. on the Globes.

have been seized by the other sex. The artificial florist and the man-milliner are the most conspicuous in this class of innovators. Who, that has feeling, can endure the sight of young and artless females employed at all seasons, and in all weathers, to carry a band-box from morning till night, exposed to the insolence of street libertines, and the perils of vicious example displayed by their abandoned associates; while, with unwet feet, the perfumed coxcomb * measures the riband at home, or folds the gauze, as he slips, "with many holiday and lady terms," fine phrases to females of distinction? I look upon a Man-Milliner, says Mr. Southey, not only as one of the most despicable members of society, but as one of the most injurious. When I hear one of these fellows haranguing upon the merits of muslin, or the becoming colour of a riband, anger will mingle itself with the feeling of contempt; for the employment that degrades this animal might have preserved a woman from prostitution. *Travels*, p: 223.

The learned secretary to the Society of Arts†, &c. in his address to the members (1810) intermingled his remarks with a strong and forcible satire upon men-milliners, and those other classes of epicene character, in which bipedal animals, in the shape of men, usurped those soft occupations which nature had designed for females, to the disgrace of their manhood, and the injury of the fair sex!

Suppose sixteen milliners could make nine dresses in six days, how many would be required to make twenty-four such garments in eight days? *Ans.* 32.

No. 605. PINS.—These, in commerce, are little necessary implements, chiefly used by women in adjusting their dress. They are made of brass wire blanched. The pins most esteemed are those of England; those of Bourdeaux are next; then those of the little town of Rugle, in the late province of Normandy‡. The pin wire is

* Shakspeare, in his inimitable description of a foppish nobleman, says, "He was perfumed like a milliner." First Part of Henry IV. Act 1. Sc. 4.

† See Chron. and Biog. Exer. 4th edit. art. Barry.

‡ It is situated S. W. of Evreux, and is now in the department of Eure. See Wallis's New Atlas of France.

chiefly

chiefly brought from Stockholm. Notwithstanding that there is scarcely any commodity cheaper than pins, there are none that pass through more hands before they are sold; twenty workmen being successively employed in each pin, between the drawing of the brass wire and the sticking of the pin in the paper. Pins, according to Stow, were first made in England in 1543, though others date their introduction at an earlier period. Before this art was discovered, the ladies used wooden skewers.

One of the articles of the statutes of the ancient pin-makers of Paris was, that no master should open more than one shop for the sale of his wares, except on New-Year's Day, and its eve; this we mention in an age of luxury and profusion, to recal to mind the agreeable simplicity of our forefathers, who contented themselves with presenting pins for a new-year's gift. Hence the custom of still given the name of pins, or pin-money, to certain presents, that accompany the most considerable bargains, in which it is usual to give something toward the pins of the wife or children of the person with whom the agreement is concluded. Hence, too, the term pin-money is applied to the allowance that is generally made by the husband to his wife for her own individual use*. The pointing of pins is attended with almost certain sacrifice of those who are employed in it. Strong constitutions are not so immediately affected, but to the strongest it generally proves fatal, if persisted in for a few years; which arises from the number of metallic particles received into the lungs by breathing. These stop the finer vessels, and induce by that means apoplexy and consumption. See Mr. COTTLE's beautiful poem entitled *Malvern-Hills*.

If, in the city of Gloucester, as many men as there are days in the week could, in the number of hours in a natural day, make as many pins as there are moments in an hour; how long would as many men as there are

* Addison, whom we are delighted to quote whensoever a fair opportunity offers, says that *pin-money*, should rather be called *needle-money*, to put the ladies in mind of industry. This idea, if not actually taken from, is in perfect unison with Fuller's punning, but excellent definition of a needle, *quasi ne idle—be not idle*.

lunar months in a year take to fabricate as many pins as there are hours in a year? *Ans.* 31 hours 28 minutes $\frac{2880}{46800}$.

No. 606. EMBROIDERY.—Embroidery is the art of enriching cloth, stuff, or muslin, with variegated needle-work. The word is derived from the French, *broiderie*.

Embroider'd purple clothes the golden beds;
This flave the floor, and that the table spreads.

POPE.

The invention of embroidery is usually ascribed to the Phrygians*, whence the Latins call embroiderers *Phrygiones*. But we learn from Homer, and other ancient authors, that the Sidonians particularly excelled in this beautiful decorative species of needle-work†, an art of which very early mention is also made in the Scriptures‡.

We feel singular satisfaction—a pleasure that recurs upon every new instance of female ingenuity—in observing, that England can now boast of an unrivalled artist in the exercise of the needle. Though the exquisite performances of this accomplished lady have for some time been the admiration of many thousands in the metropolis, and have acquired for herself the celebrity that her splendid talents so justly merit; still, even at the hazard of being charged with communicating trite intelligence, we cannot forbear the formal mention of Miss LINWOOD (a native of Warwickshire), as the personage who has thus eminently distinguished herself, and in whose hands the needle is become a formidable rival to the pencil.

The progress of this branch of the arts in Great-Britain is curious. In the first samples, or rather samplers, whea

* Phrygia was a country of Asia Minor. The invention of the pipe of reeds, and of all sorts of needle-work, is attributed to the inhabitants, who are represented by some authors as effeminate, servile, and voluptuous.

† See Sidon, Index.

‡ See Exodus, chap. xxxv. ver. 35. and chap. xxxviii. ver. 23.

it was in its infancy, we see the Lord's prayer, or the decalogue, surmounted by Adam and Eve in the garden of Eden, or Daniel in the den of lions, which, in massy Gothic frames, were wont to decorate the walls of our ancient gentry. Among the most early pieces of needle-work that appear to have attracted particular notice in this country, is a suite of chair-bottoms, worked by and under the direction of Queen Mary*, consisting of trophies in honour of her heroic husband King William III†. In the beginning of the present reign, the wife of Worlidge, the painter, copied some prints in needle-work, which excited considerable attention. About thirty years ago, several of the orphan daughters of clergymen, patronized and protected by her Majesty, wrought, under the direction of the late ingenious Mrs. Wright, some curious bed-furniture, now in the castle at Windsor, and many other ornamental articles, that beam with uncommon taste and elegance. To these may be added the pleasing performances of the late Mrs. Knowles, whose correct representations of various animals were greatly admired, and who, in some of her fruit-pieces, actually shewed

“ The glow of nature, and the bloom of spring.”

Some beautiful miniature specimens of needle-work were moreover exhibited in London a few years ago, by the daughters of a deceased officer, whose name does not at present occur to our recollection:—

“ Then LINWOOD rose, inspir'd at once to give
“ The matchless grace that bids the picture live :

* In one of the bed-chambers of the Earl of Mansfield's palace at Scoon, in Perthshire, is a scripture-piece in needle-work, the production of the unfortunate Mary Queen of Scots, during her confinement in Loch-Leven-Castle, Kinrossshire. See Chron. and Biog. Exer.

† See Chron. and Biog. Exer. for a brief account of King William and Queen Mary.

“ With the bold air, the lovely lasting dye,
 “ That fills at once and charms the wond'ring eye *.”

In viewing these beautiful specimens of female ingenuity, the mind naturally reverts to the best days of the Gobelin tapestry † : and it is paying our fair country-woman no compliment in saying that as works of art, for truth and fidelity of colouring, expression and outline, they need not fear comparison with the finest of the French performances. Considering them in another point of view, as productions of the needle, they are the most wonderful performances on record, and have opened a new and beautiful road for the amusement of our females of every rank and fashion. Too much praise cannot be given to Miss LINWOOD for her invention of this new style of picturing “ A Michael's grandeur and a Raphael's grace ;”—and for the perfection to which she (herself the inventor) has at once attained. The Linwood Gallery is in Leicester-Square, and the price of admission to this splendid and interesting exhibition is 2s.

If 8 persons at Glasgow could embroider 24 yards of

* The celebrated Anna Maria Schurmann learned the art of embroidery in a few hours ; which, with no great practice, she carried to the highest degree of perfection. Dr. Render, in his “ Tour through Germany,” mentions having seen two specimens in the same style as Miss Linwood's.

In the Parish church of Welwyn, Herts, is one of the most curious altar-pieces in the kingdom, being adorned with an elegant piece of needle-work, by Lady Betty Young, who, (with her husband the celebrated author of the “ Night-Thoughts”), is buried under it. See Chron. and Biog. Exer. April 12, 1765.

It may, perhaps gratify some of our young readers to know, that needle-work in general had a strenuous approver in Dr. Johnson, who said, “ that one of the greatest felicities of female life, was the general consent of the world, that they might amuse themselves with petty occupations, which contributed to lengthen their lives, and preserve their minds in a state of sanity.” He was exceedingly struck with, and often quoted, an expression of a lady of quality, “ that a man cannot hem a pocket handkerchief, and so runs mad, and torments his family and friends.” See the note to Quest. 605.

Mrs. PIOZZI's *Anecd. of Dr. Johnson*, p. 274, 2d edit.

† See Quest. 617, Tapestry ; and Chron. and Biog. Exer. art. Colbert.

muslin

muffin in 6 days, how many are required to embroider 18 yards in 3 days? *Ans.* 12.

No. 607. NEEDLES.—A needle is a small instrument made of steel, pointed at one end, and perforated at the other to receive the thread, used in sewing, embroidery, &c.

For him you waste in tears your widow'd hours,
For him your curious needle paints the flowers.

DRYDEN.

Needles make a very considerable article of commerce, the consumption being almost incredible. German and Hungarian steel is of most repute for needles. The first that were made in England were fabricated in Cheapside, London, in the time of the sanguinary Mary, by a negro from Spain; but, as he would not impart the secret, it was lost at his death, and not recovered again till 1566, in the reign of Elizabeth; when, says Stow, Elias Growse, a German, taught the art to the English, who have since brought it to the highest degree of perfection. The largest sized needle is No. 1, the smallest No. 25. They are usually made up in packets of 25 each.

Suppose as many packets of needles as there are working-days in a year, could be made up in a working-day, by as many persons as a yard contains inches, how many similar parcels could be packed up in half the time, by as many persons as a mile contains yards? *Ans.*
 $7,651 \frac{43}{32}$

No. 608. DIFFERENT SIZES AND SHAPES OF BOOKS.—A folio volume (usually written *fol.*) has the pages formed by a sheet of paper once doubled, making two leaves; a quarto (4to.) has the sheet doubled twice, making four leaves; an octavo (8vo.) has the sheet folded into eight leaves; and a duodecimo (12mo.) into twelve leaves, &c. A pamphlet is a small book, seldom exceeding six sheets; properly a book of blocks and stitched. The first books were in the form of blocks and tables.

T 6

tables* ; but as pliant materials came to be used, it was found more convenient to make them in the form of rolls, which appear to have been in use among the Jews, Grecians, and Romans, till some centuries after Christ. The copies of the Old Testament in the Jewish synagogues are to this day long scrolls of parchment rolled upon sticks †. The shape which now obtains among us, though little known to the ancients, was invented by Attalus, king of Pergamos, to whom some ascribe the manner of preparing parchment ‡. It was one Philatius, a learned man at Athens, who first taught the use of a kind of glue, to fasten the several leaves together ; on which account a statue was erected to him.

If 1,500 pamphlets, each containing 10 sheets of paper, consume 30 reams of paper in printing, how many reams will the same number of pamphlets require, each containing 12 sheets $\frac{1}{2}$? *Ans.* $37\frac{1}{2}$ reams.

No. 609. CINNAMON.—An agreeable aromatic spice, growing only, at least till very lately, in the island of Ceylon, in the S. W. part of the bay of Bengal, Asia §. The chief virtue of the cinnamon-tree is in its bark. Its qualities are to heat and dry, to fortify the spirits, and to help digestion : but its chief use, in medicine, is as an astringent ; with which intention it is prescribed in diarrhoeas, and weakneses of the stomach. The whole commerce of cinnamon has been hitherto in the hands of the Dutch, to whom the chief part of Ceylon long apper-

* See Quest. 540, p. 346.

† See Dr. Doddridge's *Fam. Expof.* vol. i. p. 203.

‡ See Quest. 217, p. 104.

§ It is conjectured, however, that in ancient times Arabia produced this spice ; since it is mentioned among the perfumes of the sanctuary, Exodus xxx. 23. That it was indigenous to other parts of the world besides Ceylon, is evident from Don Ulloa, who assures us that it is found in one of the American forests. This gentleman left Quito, in South America, in 1736. See *Exer. on the Globes, and Chron. and Biog. Exer.*

tained ;

tained * ; but this valuable spice has been lately cultivated at Jamaica with such success, that it is expected, that, in a few years, we shall, if necessary, be supplied with a sufficient quantity from our West-India islands.

If 8 men in 14 days could prepare and plant 112 perches of ground with cinnamon-trees, how many men must there be to plant 2000 perches in 10 days? *Ans.* 200 men.

No. 610! STEAM-ENGINE.—This is the name of a machine that derives its moving power from the elasticity and condensibility of the steam of boiling water. It is allowed to be the most valuable present that the arts of life have ever received from the philosopher, and the most curious object that human ingenuity has yet offered to his contemplation. The mariner's compass †, the telescope ‡, the microscope ‡, spectacles §, gunpowder ||, and many other most useful servants to the weakness and necessities of man, were the productions of chance, and we do not exactly know to whom we are indebted for them; but the steam-engine was, in the very beginning, the result of reflection, and the production of a very ingenious mind; and every improvement that it has received, and every alteration in its construction and principles, were also the results of philosophical study. The steam-engine was, beyond all doubt, invented by the Marquis of Worcester, in the reign of Charles II. but it does not appear that the

* Trincomale, rendered by nature one of the most spacious and commodious harbours in the East, and the capital of Ceylon, surrendered to the English, under Colonel Stewart, August 26, 1795, and was confirmed to us by the peace of Amiens, in 1802.

† See Index, and Exer. on the Globes.

‡ See Exer. on the Globes.

§ See Index.

|| Gunpowder is a composition of saltpetre, sulphur, and charcoal, mixed together, and usually granulated. The invention is, by most authors, ascribed to Bartholdus Schwartz, a monk of Goslar, South of Brunswick, Germany, about 1380; but others maintain that it was known much earlier in many parts of the world, and that our famous Roger Bacon knew of gunpowder near a hundred years before Schwartz was born. See Bacon, Roger, Index.

noble

noble inventor could ever interest the public either in favour of this or his other discoveries. Captain Savary, a person of great ingenuity and ardent mind, law, however, the reality and practicability of the marquis's project, and, about the year 1696, erected several machines of this kind. The tin mines of Cornwall standing in great need of hydraulic assistance, Mr. Savary was much engaged in projects for draining them by his steam-engine. This made its construction and principles well known among the machinists and engineers of that neighbourhood, some of whom made successful attempts to improve it. Among these was a Mr. Newcomen, who erected one upon a new principle, that is now called Newcomen's Engine. Mr. Keane Fitzgerald also made an important addition to the steam-engine; but to Mr. WATT, of Glasgow, and the late Mr. BOULTON, of Soho*, it is indebted for its present state of excellence. These eminent mechanics and philosophers were long associated in the advantages that were derived from the patent-right, and the alliance was equally honourable to both.

These invaluable machines are of most extensive use, being employed in drawing water from coal-pits and mines†, in supplying cities with water, and in working metals:

* Soho is the name of a set of works, or a manufactory, belonging to the late Mr. Boulton, within two miles of Birmingham, and has for many years been justly celebrated for the novelty, taste, and variety, of its useful and ornamental articles, consisting of buttons, buckles, watch-chains, trinkets, plated wares; services of plate and other works in silver, both massive and airy, &c. &c. Here too is carried on the lucrative manufactory of steam-engines; and an expensive apparatus has, moreover, been lately erected for the national new copper coinage. Some exquisite specimens of highly finished medals and private coins have also been exhibited at these works. Seven hundred workmen have been actually employed at a time by Mr. Boulton, who was himself a native of Birmingham, in which town he was born the 14th of September 1728. See Chron. and Biog. Exer. 4th edit. art. Boulton.

† "A Topographical Description of Cornwall," lately published, mentions a steam-engine used for drawing off the water of the great tin-mine at Polgarth, which cost the sum of £20,000. The quantity of coal requisite to keep this stupendous and wonderful engine in motion, is 72 bushels in 24 hours. It raises 63 gallons of water at every stroke, and performs 14 of these motions every minute.

The

metals: in short, in every demand of manufacture on a great scale, they offer us an *indefatigable arduge, whose strength has no bounds*. The greatest mechanical project that ever engaged the attention of man was on the point of being executed by this machine. The states of Holland were treating with Messrs. Watt and Boulton for draining the Haerlem Meer, and even reducing the Zuyder Zee; but the unsettled state of public affairs in that country has hitherto prevented the execution of the plan, which, there is no doubt, will be fully accomplished at some more auspicious period.

To such amazing perfection has this *chef d'œuvre* of human art at length been brought, that the consumption of one bushel of good pit-coal will enable it to raise 6,000 hogheads of water ten feet high, or to do the work of ten horses for one hour*. Upon this supposition, how many

The water thrown out upon the surface, runs off like a river, and, according to the above calculation, must be upwards of 900,000 gallons daily.

Month. Mag. Jan. 1802, page 570.

* A concise but satisfactory history, together with a copious description of the nature and excellencies of the steam engine, and a statement of its performances, as ascertained by actual experiments, may be seen in the Ency. Brit. Dr. Darwin has also given a complete account of these machines. See the Botanic Garden, ed. 4, note xi. p. 287. Our young readers in particular may consult Mr. WALKER'S Analysis of his Course of Lectures, for a brief account of this and many other hydraulic engines; or, for a more detailed description, with suitable plates, his larger work, entitled "A System of Familiar Philosophy, &c."

In mentioning the name of this eminent practical philosopher, we cannot forbear embracing the occasion of offering a small tribute of unfeigned respect to the unremitting ardour that he has long manifested in the diffusion of scientific knowledge; and more especially to the laudable attention that he has recently shewn to the rising generation, in undertaking to deliver his admirable "Course of Lectures in Natural and Experimental Philosophy," in the schools of the metropolis and its environs. By the adoption of this liberal plan, the youth of both sexes have an opportunity, at an easy expence, and with very little interruption to their other studies, of becoming acquainted with "Nature, her Laws, and the several Uses that Art and Mechanism have made of her various Productions;" acquirements that will not only

many gallons of this liquid would 144 pecks of coal raise to a similar height? *Ans.* 13,608,000 gallons.

PRACTICE

IS a contraction of the Rule of Three Direct*, when the first term happens to be an unit, and has its name from its daily use among those concerned in trade; being an easy and concise method of working most questions that occur in business. An aliquot part of any number is that which, being taken a certain number of times, does exactly make that number.

CASE I.

When the price is less than a penny, divide by the aliquot parts of a penny, and then by 12 and by 20, and it will give the answer required.

EXAMPLES.

3456, at $\frac{1}{4}$?	<i>Ans.</i> £3 12s.
846, at $\frac{1}{2}$?	<i>Ans.</i> £2 12s. 10 $\frac{1}{2}$ d.
347, at $\frac{1}{2}$?	<i>Ans.</i> 14s. 5 $\frac{1}{2}$ d.
810, at $\frac{1}{4}$?	<i>Ans.</i> £2 10s. 7 $\frac{1}{2}$ d.

CASE II.

When the price is an aliquot part of a shilling, divide the given number by the aliquot part, and the quotient

only enable them correctly to appreciate the inventive faculties of their fellow man, but qualify and excite them to "look through Nature's Works to Nature's GOD," and consequently enlarge their apprehensions of his immense power, the magnificence of his creation, and his own transcendent grandeur.

* It will be found a very improving exercise to the pupil, to prove of the sums in Practice by Compound Multiplication and the Three Direct.

will

will be the answer in shillings, which reduce into pounds as before.

EXAMPLES.

437, at 1d.?	<i>Ans.</i> £1 16s. 5d.
5275, at 2d.?	<i>Ans.</i> £43 19s. 2d.
6771, at 4d.?	<i>Ans.</i> £112 17s.
352, at 1½d.?	<i>Ans.</i> £2 4s.
1776, at 3d.?	<i>Ans.</i> £22 4s.
899, at 6d.?	<i>Ans.</i> £22 9s. 6d.

CASE III.

When the price is pence and farthings, and those not an aliquot part of a shilling, divide the given number by some aliquot part of a shilling, and then consider what part of the said aliquot part the rest of the price is, and divide the quotient thereby: add the several quotients together, and their sum will be the answer in shillings, which reduce into pounds.

EXAMPLES.

372, at 1½d.?	<i>Ans.</i> £2 14s. 3d.
827, at 4½d.?	<i>Ans.</i> £15 10s. 1½d.
2150, at 9½d.?	<i>Ans.</i> £87 6s. 10½d.
325, at 2¼d.?	<i>Ans.</i> £3 0s. 11¼d.
2700, at 7¼d.?	<i>Ans.</i> £81 11s. 3d.
1720, at 11½d.?	<i>Ans.</i> £82 8s. 4d.

CASE IV.

When the price is any even number of shillings under 20, multiply the given number by half of it, doubling the first figure to the right hand for shillings, and the other figures are pounds.

When the price is an odd number, multiply the given quantity by the price, and divide by 20, the product will be the answer.

EXAMPLES.

EXAMPLES.

2757, at 1s. ?	<i>Ans.</i> £137 17s.
3275, at 5s. ?	<i>Ans.</i> £818 15s.
37 ² , at 11s. ?	<i>Ans.</i> £204 12s.
3142, at 17s. ?	<i>Ans.</i> £2670 14s.
2643, at 2s. ?	<i>Ans.</i> £264 6s.
872, at 8s. ?	<i>Ans.</i> £348 16s.
5271, at 14s. ?	<i>Ans.</i> £3689 14s.
264, at 19s. ?	<i>Ans.</i> £250 16s.

CASE V.

When the price is shillings and pence, which make some aliquot part of a pound, divide the given quantity by the aliquot part, and the quotient will be the answer in pounds.

EXAMPLES.

7150, at 1s. 8d. ?	<i>Ans.</i> £595 16s. 8d.
3150, at 3s. 4d. ?	<i>Ans.</i> £525.
2715, at 2s. 6d. ?	<i>Ans.</i> £339 7s. 6d.
2710, at 6s. 8d. ?	<i>Ans.</i> £903 6s. 8d.

CASE VI.

When the price is shillings and pence, which make no aliquot part of a pound, bring out the answer the shortest way that can be done, either by working for an even number of shillings and other aliquot parts; or by dividing the price into several parts, either of the given number, or of one another; but when this method would occasion much work, it will be better to multiply the quantity by the shillings, and take parts for the pence, which added together will give the answer in shillings.

EXAMPLES.

7211, at 1s. 2d. ?	<i>Ans.</i> £450 13s. 9d.
801, at 10s. 9d. ?	<i>Ans.</i> £430 10s. 9d.
807, at 1 ⁶ s. 5d. ?	<i>Ans.</i> £662 8s. 2d.
2710 at 3s. 2d. ?	<i>Ans.</i> £429 1s. 8d.
841, at 13s. 2d. ?	<i>Ans.</i> £553 13s. 2d.
969, at 19s. 11d. ?	<i>Ans.</i> £964 19s. 3d.

C A S E VII.

When the price is shillings, pence, and farthings, divide the price into aliquot parts of a pound, or of one another, and the sum of the quotients will be the answer.

E X A M P L E S.

- 875, at 1s. $4\frac{1}{4}d.$? *Ans.* £61 1s. $4\frac{1}{4}d.$
 3715, at 9s. $4\frac{1}{2}d.$? *Ans.* £1741 8s. $1\frac{1}{2}d.$
 1603, at 16s. $10\frac{1}{2}d.$? *Ans.* £1352 10s. $7\frac{1}{2}d.$
 7524, at 3s. $5\frac{1}{2}d.$? *Ans.* £1301 0s. 6d.
 2572, at 13s. $7\frac{1}{2}d.$? *Ans.* £1752 3s. 6d.
 2710, at 19s. $2\frac{1}{2}d.$? *Ans.* £1602 14s. 7d.

C A S E VIII.

When the price is pounds, shillings, pence, and farthings, multiply the given number by the pounds, and work for the rest the shortest way pointed out in the foregoing rules.

E X A M P L E S.

- 137, at £1 17s. $6\frac{1}{4}d.$? *Ans.* £257 0s. $4\frac{1}{4}d.$
 947, at £4 13s. $10\frac{1}{4}d.$? *Ans.* £4538 13s. $10\frac{1}{4}d.$
 457, at £14 17s. $9\frac{1}{4}d.$? *Ans.* £6804 10s. $9\frac{1}{4}d.$

C A S E IX.

When the quantity whose price is required is of several denominations, multiply the price by the number in the highest denomination, and take the same parts of the price for the rest as they are of an unit in the highest number: adding these together will give the answer.

E X A M P L E S.

- 37 cwt. 2 qrs. 14 lb. at £7 10s. 9d. per cwt.
Ans. £283 11s. $11\frac{1}{4}d.$
 17 cwt. 1 qr. 12 lb. at £1 19s. 8d. per cwt.
Ans. £34 8s. 6d.
 23 cwt. 3 qrs. 8 lb. at £3 19s. 11d. per cwt.
Ans. £95 3s. $8\frac{1}{4}d.$
 39 cwt. 0 qr. 10 lb. at £1 17s. 10d. per cwt.
Ans. £73 13s. $10\frac{1}{4}d.$

INTEREST.

I N T E R E S T.

INTEREST is the premium, or money paid, for the loan or use of other money lent for a specific time, according to some certain rate. The sum lent is called the principal, because it is the sum that procreates the interest. Amount is the principal and interest added together.

The rate of legal interest in this country has varied and decreased for 200 years past, according as the quantity of specie in the kingdom has increased by accessions of trade, the introduction of paper credit, and other circumstances. It has been 10, 8, 6; and lastly, 5 per cent. yearly, which is now the extremity of legal interest that can be taken.

There are some cases where it is customary to consider the time elapsed different ways. In the courts of law, interest is always computed in years, quarters, and days; which, indeed, is the only equitable method: but in computing the interest on the public bonds of the South-Sea and India Companies, and in the Bank of England, &c. the time is generally taken in calendar months and days; and on exchequer bills in quarters of a year and days.

R U L E.

Multiply the principal by the rate, and divide the product by 100, or, what amounts to the same, cut off two figures to the right-hand, the quotient will be the answer, or interest, for one year; and multiplying the interest for one year, by any proposed time, will give the interest for that period. If there be parts of a year, as months or days, work for the months by the aliquot parts that they make of a year; and for the days by the Rule of Three Direct*.

* We recommend it to the pupil to prove each sum in Interest by the Rule of Three Direct.

EXAMPLES.

EXAMPLES.

N^o. 611. PROCRASTINATION IS THE THIEF OF TIME.—
Dr. YOUNG.

The favourite apothegm of Alexander the Great * was, "Nothing is to be delayed;" and Cæsar†, his potent rival in glory, says, in Lucan's *Pharsalia*, "Hence dull delays, they harm the cause in hand." Shakspeare has some happy passages on this topic, advising against procrastination, and exhorting to the use of the present moment.

Fearful commenting

Is leaden servitor to dull delay;
Delay leads impotent and snail-pac'd beggary.
———Take the instant by the forward top;
For—on our quick'st degrees
Th' inaudible and noiseless foot of time ‡
Steals, ere we can effect them.

We are frequently importuned, says Dr. Johnson, by the bacchanalian writers, to lay hold on the present hour, to catch the pleasures within our reach, and remember that futurity is not at our command. But surely these exhortations may, with equal propriety, be applied to better purposes; it may be at least inculcated, that pleasures are more safely postponed than virtues, and that greater loss is suffered by missing an opportunity of doing good, than an hour of giddy frolic and noisy merriment.

When Baxter § had lost a thousand pounds, that he had laid up for the erection of a school, he used frequently to mention the misfortune as an incitement to be charitable while God gives the power of bestowing, and con-

* See Index.

† See Index.

‡ The following comparison, applied to time, is happily imagined:

Time treads more soft than e'er did midnight thief,
Who slides his hand under the miser's pillow,
And carries off his prize.

§ See Chron. and Biog. Exer.

BLAIR.

sidered

sidered himself as in some degree culpable for having left a good action in the hands of chance, and suffered his benevolence to be defeated for want of quickness and diligence*.

What is the interest of the above sum for a year, at 5 per cent. per annum? *Ans.* £50.

No. 612.—JACOBUS.—This was a gold coin worth twenty-five shillings; so called from King James I. of England, in whose reign it was struck.

When Charles II. was sheltered in Holland†, after his defeat at Worcester by Cromwell‡, he employed Salmaſius (Salmaise), a learned Frenchman, and professor of polite learning at Leyden, to write a defence of his father, who had been beheaded§, and of monarchy; for which he gave him, as was reported, 100 Jacobuses. To this work, which was entitled *Defensio Regis*, our celebrated Milton composed a spirited and elegant confutation, and was rewarded with £1,000 for his trouble. Salmaſius died at the Spa, September 3, 1653; and, as controversialists are commonly said to be killed by their last dispute, Milton was flattered with the credit of destroying him.

What is the interest of the two sums mentioned in this question, for a year, at $4\frac{1}{2}$ per cent.? *Ans.* £50 12s. 6d.

No. 613. CREBILLON.—This admirable French writer of tragedy, who is usually ranked after Corneille and Racine, was born at Dijon||, now in the department of Côte d'Or, in 1674, and died in 1762. A pension of 3,000 livres, granted by Louis XV. to this celebrated author, gave rise in England to the following *jeu d'esprit*:

* See the Rambler, No. 71. We earnestly recommend to the attentive perusal of our young friends, on this interesting subject, the incomparable tale of "To-Morrow" in Miss Edgeworth's admirable "Popular Tales."

† See Rotterdam, Chron. and Biog. Exer. 4th edit.

‡ See Sept. 3, 1651, Chron. and Biog. Exer. 4th edit.

§ See Index.

|| Dijon had also the honour of giving birth to Languet. See the succeeding question.

At reading this, great WALPOLE* shook his head;
 How! wit and genius help a man to bread!
 With better skill we pension and promote;
 None eat with us who cannot give a vote.

Valuing a livre at $10\frac{1}{2}d.$ sterling, what is the interest of the poet's pension for three years and a half, at $4\frac{1}{4}$ per cent. sterling money? *Ans.* £21 16s. $4\frac{1}{4}d.$

No. 614. LANGUET.—John Baptist Joseph Languet, the celebrated vicar of St. Sulpice, at Paris, was one of those extraordinary men whom Providence mercifully raises up for the relief of the indigent and the solace of the wretched, for the good of society, and for the glory of nations. It is said, from good authority, that he sometimes disbursed the amazing sum of a million of livres in charities and charitable establishments in a single year. When there was a general dearth in 1725, he sold, in order to relieve the poor, his household goods, his pictures, and some curious pieces of furniture that he had procured with great difficulty. His boundless beneficence was not confined to his own parish or neighbourhood; for, when the plague raged at Marseilles †, he remitted large sums into Provence to assist those afflicted people. This eminent philanthropist, who highly merits to be ranked with the British worthies briefly described in the question concerning English Charity, was born at Dijon, June 6, 1675, and, after exhausting his whole fortune in works of charity, died in 1750 ‡.

Valuing a livre at the sum mentioned in the preceding question, what is the value of this good prelate's annual donation in sterling money, and the interest of it for nine months, at $4\frac{1}{4}$ per cent. per annum? *Ans.* £43,750 its value; and £1,394 10s. $7\frac{1}{2}d.$ its interest for nine months.

* See Index.

† See Index.

‡ Moses Amyrault, another eminent French divine, who died in 1664, was a man of such charity and compassion, that, during the last ten years of his life, he bestowed his whole salary on the poor, without distinction of Catholic or Protestant.

No. 615. FEMALE SHARPER.—There are, says Dr. Colquhoun*, female sharpeners, who dress elegantly, personate women of fashion, attend masquerades, and even go to St. James's; where their wits and hands are employed in obtaining diamonds, and whatever other articles of value, capable of being concealed, are found to be most accessible. One of these appeared at court on the king's birth-day in 1795, dressed in a style of peculiar elegance; while her husband, a well-known sharper, is supposed to have gone in the dress of a clergyman. This hopeful pair, according to the information of a noted receiver, pilfered on that day to the value of £700, without discovery or suspicion.

What is the amount of this ill-gotten sum, with interest for 4 years and 73 days, at 5 per cent. per annum? *Ans.* £847.

No. 616. JEWEL.—A jewel is any precious stone, or ornament beset with them. Jewels made a part of the ornaments with which the Jews, Greeks, and Romans, especially their ladies of distinction, adorned themselves. So prodigious was the extravagance of the Roman ladies, in particular, that Pliny the elder† says, he saw Lollia Paulina with an equipage of this kind, amounting, according to Dr. Arbuthnot's calculation, to £322,916 13s. 4d. of our money. At the splendid entertainment that Prince Potemkin gave to the late Empress of Russia at Petersburg, in 1791, the jewels worn by 48 young persons belonging to the court, who performed a ballet, were estimated at a million sterling. The particulars of this most splendid entertainment, exceeding, perhaps, any thing of the kind on record, may be seen in the "Secret Memoirs of the Court of Petersburg," vol. ii. p. 209, or in Mr. Tooke's "Life of Catharine II." vol. iii. p. 364, &c.

What is the interest of the two sums mentioned in this question, for one day, at 5 per cent. per annum? *Ans.* £181 4s. 5d.

* Treatise on the Police of the Metropolis, p. 127, edit. 6.

† See Chron. and Biog. Exer.

No. 617. TAPESTRY.—This is cloth woven in regular figures, serving to adorn a chamber, or other apartment, by hanging or lining the walls*. The invention of tapestry seems to have come from the Levant†; and what makes this the more probable is, that formerly the workmen concerned in it were called, at least in France, *Sarazins*, or *Sarazinois*. Some have supposed that the English and Flemish, who were the first that excelled in this art, might bring it with them from some of the cruises‡ or expeditions against the Saracens§. Accordingly they say, that those two nations were the first who set on foot this noble and rich manufacture in Europe, which afterwards became one of the finest ornaments of palaces, churches, &c. At least, if they be not allowed to have been the inventors, they have the honour of being the restorers, of this curious and admirable art, which gives a kind of life to wools and silks, in some respects not inferior to the paintings of the best masters. It does not, however, appear, at what precise æra this manufacture was introduced into Europe; nor is it certain to whom it was owing. The art of weaving tapestry was introduced into England by William Sheldon, Esq. about the end of the reign of Henry VIII.; and in the reign of James I. a manufacture of tapestry was set up at Mortlake, in Surrey, which attained to a great degree of perfection||. The first establishment of a tapestry manufacture at Paris was under Henry IV. about the year 1606, by means of several excellent artists, whom he invited from Flanders. But this fell with the death of that prince. Under Louis XIV. it was retrieved by the care and address of the great Colbert, to whom is owing the establishment of

* The exemplary female mentioned by Solomon made herself coverings of tapestry*; and Homer, who was nearly contemporary with that monarch, represents both Helen† and Penelope‡ as employed at their looms. They did not, however, use the shuttle, but, like the women of the present day in Barbary, conducted every thread of the woof with their fingers. See Burder, ii 224.

† The Eastern coasts of the Mediterranean Sea.

‡ See Quest. 89, p. 46.

§ Inhabitants of Arabia, disciples of Mahomet.

|| See Walpole's Anecdotes of Painting in England, vol. ii. p. 36.

* See Prov. chap. xxxi. and Quest. 442.

† See Quest. 11, p. 12.

‡ See Quest. 423.

the **GOBELINS**, a royal tapestry manufacture, which has produced works of this kind scarcely inferior to the finest English or Flemish tapestry, either with regard to the design, the colours, or the strength. The finest paintings may be copied in this work, and the greatest masters have been employed in draughts for the tapestry weavers. There is also an establishment of this kind at Beauvais.

The House of Lords in Westminster is a room ornamented with tapestry, which records our glorious victory over the Spanish Armada*. It was bespoke by the Earl of Nottingham†, who sold it to James I. The design was drawn by Cornelius Vroom, or Uroom, a native of Haarlem, and the tapestry executed by Francis Spiering. Vroom had 100 pieces of gold for his labour. The arras itself cost £1,628. It was not put up till the year 1650, after the extinction of monarchy, when the House of Lords was used as a committee-room for the House of Commons. The heads of the naval heroes who commanded on the memorable days of engagement, form a matchless border round the work, animating posterity, as Mr. Pennant justly observes, to emulate their illustrious example. See Pennant's London, p. 91, edit. 3.

What would be the interest of the sum which the before-mentioned arras‡ cost, for seven years and nine months, at $4\frac{1}{2}$ per cent. per annum? *Ans.* £599 6s. 0 $\frac{1}{2}$ d.

No. 618. **PAINTING.**—The application of mankind, in the early ages of society, to the imitative arts of painting, carving, statuary, and the casting of figures in metals, seems to have preceded the discovery of letters; and to have been used as a written language to convey intelligence to their distant friends, or to transmit to posterity the history of themselves, or of their discoveries. Hence the origin of the hieroglyphic figures that crowded the walls of the temples of antiquity; some of which are still used in the sciences of chemistry and astronomy, as the characters for

* See Quest. 103, p. 61.

† Lord Howard, of Effingham, a place three miles from Epsom, in Surrey.

‡ As tapestry is frequently called arras, particularly in the writings of Spenser, Shakspeare, and Denham, some maintain the probability of its having been actually invented at Arras, a town of Astois, in the Netherlands. See Cambric, and Bayoët, Index.

metals and planets, and the figures of animals on the celestial globe.

The art of painting has appeared in the early state of societies before the invention of the alphabet. Thus when the Spanish adventurers, under Cortez, invaded America, intelligence of their debarkation and movements was daily transmitted to Montezuma, by drawings, which corresponded with the Egyptian hieroglyphics. The antiquity of statuary appears from the Memnon and sphinxes of Egypt; that of casting figures in metals from the golden calf of Aaron; and that of carving in wood from the idols or household gods, which Rachel stole from her father Laban, and hid beneath her garments as the fat upon the straw. *Gen. xxxi. 34.*

DARWIN'S *Temple of Nature.*

Painting is justly esteemed the first of the imitative arts; it embodies the ideas of the poet; and, to the symmetry and expression of the statuary, it adds the vivid colours of nature, and the soul-expressive glance of the eye. The valuable purpose to which portrait-painting may be applied is happily expressed in the subsequent lines:

Blest be the pencil, which from death can save
The semblance of the virtuous, wise, and brave;
That youth and emulation still may gaze
On those inspiring forms of ancient days,
And, from the force of bright example bold,
Rival their worth, "and be what they behold."

HAYLEY.

The landscape painter conveys in effect a distant country into ours, and thus in great measure gratifies a national curiosity; while the historic painter presents to us the heroic deeds of ancient times, as well as the facts in which we are most conversant, and thus embalms the memory of departed merit. It was an observation of one of the Scipios, that he never could view the pictures of his ancestors without feeling his bosom glow with the most ardent passion of imitating their actions. If such were the feelings of mankind in general in viewing the efforts of this elegant and pleasing art, how extensive might be the utility of the engraver's burine, which enables us to

multiply the representations of such events as the death of Epaminondas*, of Wolfe†, or of Peirson‡; the benevolence of an Alfred dividing his loaf with the pilgrim, or of a Sidney foregoing the welcome beverage when at his lips, in favour of the poor soldier, whose necessity he thought more pressing than his own§.

The print representing the death of Major Peirson (including the picture) cost Mr. Alderman Boydell|| the amazing sum of £5,000; what is its interest for 73 days, at 4½ per cent. per annum? *Ans.* £47 10s.

No. 619. THE HAND OF THE DILIGENT MAKETH RICH.—
SOLOMON.

Parents and friends often make themselves very uneasy from an apprehension, that the trifling sums, with which those for whom they are concerned set out in life, will be entirely inadequate to their wants, and prevent them from ever rising much above straits and difficulties. But it frequently happens, that this seeming disadvantage, by leading young persons to observe the necessity of being diligent, attentive, and obliging, prove the very means of advancing them; while those who, depending on their own fortunes, neglect the surer method of thriving, disappoint the hopes that their relations had been led to form. No stock, how great soever, can render a man successful in trade, without the concurrence of those endowments which beget confidence and respect. If a well-educated youth be of a pleasing disposition, and have a turn for business, there is but little cause for anxiety as to his future welfare; so true is the observation of Shakspeare, that "'Tis in ourselves that we are thus and thus."

The happiness of life

Depends on our discretion. —————

Look into those they call *unfortunate*,
And, closer view'd, you'll find they are *unwise*;
Some flaw in their own conduct lies beneath;

* See Index. † See Index. ‡ See Index.

§ See Chron. and Biog. Exer.

|| See Geographical and Biographical Exercises, and Chron. and Biog. Exer.

And

And 'tis the trick of fools to save their credit,
That brought another language into use.

YOUNG.

As the art which is the immediate object of this work will teach every individual how to regulate his expences, and to estimate his gain, and is, therefore, calculated to be a motive to œconomy and a spur to diligence; as it has been a principal aim of him who has ventured to commit it to the press, to inculcate, by facts and remarks incidentally inserted, the importance of acquiring the consciousness and the reputation of integrity, and to diffuse among the young a love of industry, of perseverance, of knowledge, and of universal benevolence, which are so well adapted at once to give birth to tranquillity of mind, and to insure success in the world; it would, perhaps, have been difficult to have selected, for the concluding scene of the present performance, any actor on the stage of existence, who so well deserves to be introduced as the subject of imitation, among those who tread the ordinary paths of society, as that illustrious citizen THOMAS FIRMIN, or any individual who moved through the difficult acts of life with superior éclat. This eminent character began business with only one hundred pounds; but being possessed of amiable manners, great industry, and incorruptible integrity (qualities that are generally found to be more serviceable to a young man than a large capital), he not only acquired a considerable portion of wealth, but became renowned for the extent and utility of his charities*; lived respected by many in the highest classes of society, and died revered, regretted, and beloved by all who knew him. Although this benefactor of mankind might have left a fortune behind him of at least twenty thousand pounds, yet so reduced was his substance by private and public beneficence, that he died worth only a sixth part of that sum. How glorious must be his reward, who was thus rich in good works, and continually laying up in store for himself a treasure in heaven!!

What is the interest of the sum that Mr. Firmin possessed at his decease, for 120 days, at 5 per cent. per annum? *Ans.* £54 15s. 10½d.

* See Quest. 566, and Chron. and Biog. Exer.

ARITHMETICAL TABLES.

NUMERATION.

C. Millions...	9	8	7	6	5	4	3	2	1
X. Millions...									
Millions.....									
C. Thousands-									
X. Thousands-									
Thousands.....									
Hundreds.....									
Tens.....									
Units.....									

187,432,965,315,123,648,987,312,894,432

Quadrillions.....	Trillions.....	Billions.....	Millions.....	Units.....
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FARTHING'S.

grs.	d.	grs.	d.	grs.	d.
4	make 1	21	make 5½	37	make 9½
5	1¼	22	5¾	38	9¾
6	1½	23	5¾	39	9¾
7	1¾	24	6	40	10
8	2	25	6¼	41	10¼
9	2¼	26	6½	42	10½
10	2½	27	6¾	43	10¾
11	2¾	28	7	44	11
12	3	29	7½	45	11½
13	3¼	30	7½	46	11½
14	3½	31	7¾	47	11¾
15	3¾	32	8	48	1s. 0
16	4*	33	8¼	120	2s. 6†
17	4½	34	8½	240	5s. 0†
18	4¾	35	8¾	960	20s. 0§
19	4¾	36	9	1008	21s. 0||
20	5				

* Or a groat.

† Or half a crown.

‡ Or a crown, or a dollar (1810).

§ Or a pound sterling.

|| Or a guinea.

PENCE.

OBSERVATIONS

ON

WEIGHTS AND MEASURES.

BY the 27th chapter of MAGNA CHARTA, the weights are to be the same all over England; but for different commodities there are two different sorts, viz. *Troy Weight* and *Avoirdupois Weight*. The origin, from which they are both derived, is the grain of wheat, gathered in the middle of the ear: 32 of these, well dried, made one penny weight, 20 penny weights 1 ounce and 12 oz. 1 lb troy. Stat. 51 Hen. III. 31 Edw. I. 12 Hen. VII.

A learned writer has shewn that, by the laws of assize, from William the Norman to the reign of Henry VII. the legal pound weight contained a pound of 12 ounces raised from 32 grains of wheat; and the legal gallon measure invariably contained 8 of these pounds of wheat; and eight such bushels made a quarter.

Henry VII. altered the old English weight, and introduced a pound, under the name of Troy, which exceeded the old Saxon pound by 3-4ths of an ounce. This troy pound, now in use, consisting of 12 ounces, contains 5760 troy grains; and the ounce therefore contains 480.

Although formerly 32 grains made a penny-weight, it has in latter times been thought sufficient to divide the penny-weight into 24 equal parts called grains, being the least weights now in use.

The first statute which directs the use of the *avoirdupois weight*, is that of 24 Henry VIII. which plainly implies that it was no legal weight till that gave it a legal sanction; and the particular use to which the said weight is thus directed, is simply for weighing butcher's meat in the market. How or when it came into private use is not certainly known. The act which enacted that beef, pork, mutton, and veal, should be sold by avoirdupois weight, passed A. D. 1533*.

* Rapin, vol. vi. p. 368.

The moneyers, jewellers, &c. have a particular class of weights, for gold and precious stones, viz. carat and grain; and for silver, the pennyweight and grain*.

MEASURES.—Measure, in a legal, commercial, and popular sense, denotes a certain quantity or proportion of any thing bought, sold, valued, or the like.

The regulation of **WEIGHTS** and **MEASURES** ought to be universally the same throughout the kingdom; and should, therefore, be reduced to some fixed rule or standard; the prerogative of fixing which, was vested, by our ancient law, in the crown. This standard was originally kept at Winchester: and we find, in the laws of King Edgar, cap. viii. nearly a century before the conquest, an injunction, that the one measure, which was kept at Winchester, should be observed throughout the realm. With respect to measures of length, our ancient historians inform us, that a new standard of longitudinal measure was ascertained by Henry I. who commanded that the ulna, or ancient ell, which answers to the modern yard, should be made of the exact length of his own arm: and one standard of measures of length being once gained, all others are easily derived from hence; those of greater length by multiplying, those of less by subdividing, the original standard. Upon these principles the standards were first made; which being originally so fixed by the crown, their subsequent regulations have been generally made by the king in parliament. Thus, under Richard I. in his parliament holden at Westminster, A. D. 1197, it was ordained, that there should be only one weight and one measure throughout the kingdom, and that the custody of the assize, or standard of weights and measures, should be committed to certain persons, in every city and borough. In King John's time, this ordinance was frequently dispensed with for money; which occasioned a provision to be made for enforcing it, in the great charters of King John and his son.

The statute of Magna Charta, cap. 25, ordains, that there shall be but one measure throughout England, according to the standard of the Exchequer. By 17 Car. I. cap. 19, there is to be one weight and measure, and one

* Cyclopædia.

yard; and whosoever shall keep any other weight or measure, whereby any thing is bought or sold, shall forfeit for every offence 5s. And by 22 Car. II. cap. 8. water measure as to corn and grain, or salt, is declared to be within the statute 17 Car. I. And if any sell grain or salt, &c. by any other bushel, or measure, than what is agreeable to the standard in the Exchequer, commonly called Winchester measure, he shall forfeit 40s. &c. Notwithstanding these statutes, in many parts of the kingdom there are different measures of corn and grain; and the bushel in one place is larger than in another: but the lawfulness of it is not well to be accounted for, since custom or prescription is not allowed to be good against a statute. Selling by false measure, being an offence by common law, may be punished by fine, &c. upon an indictment at common law, as well as by statute.

Measures are various, according to the various kinds and dimensions of the things measured. Hence arise

Measures, lineal or longitudinal, for lines or lengths; measures, square, for areas or superficies; and measures, solid or cubic, for bodies and their capacities. All which again are very different in different countries, and in different ages, and even many of them for different commodities*. Scales and measures are said to have been invented by Phidon 869 years before the birth of our Saviour†. Phidon was king of Argos, an ancient kingdom in Greece, and brother to Caranus, the first king of the Macedonians. An author, cited by Eusebius, attributes to this Phidon the invention of weights and measures‡.

* Cyclopædia.

† Chron. Tab. Ency. Brit.

‡ Dict. de Moreri.

TABLES OF WEIGHTS AND MEASURES.

TROY Weight.

24 grains make.....	1 penny-weight
20 penny-weights	1 ounce
12 ounces	1 pound

By this weight are weighed jewels, gold, silver, silk, and all liquors.

We may here observe, that a troy pound of gold is worth £46 14s. 6d. for 44 guineas are coined from each pound of the mint. A troy ounce is worth £3 17s. 10½d. in coinage standard.

The troy pound of silver, coinage standard, is worth £3 2s. an ounce is worth 5s. 2d. a penny-weight is worth 3d. and 4-10th parts of a farthing; and a grain is worth about half a farthing.

N. B. 14 ounces, 11 penny-weights, and 16 grains troy, are equal to a pound avoirdupois; or the proportion of a pound troy to a pound avoirdupois is as 14 to 17; the former pound containing 5760 grains, and the latter 7000.

AVOIRDUPOIS Weight.

16 drams make.....	1 ounce
16 ounces	1 pound
28 pounds	1 quarter
4 quarters	1 cwt.
20 hundred-weight.....	1 ton

By this weight are weighed all coarse and heavy goods; as pitch, tar, rosin, tallow, &c. copper, tin, &c. flesh, butter, &c. and also bread, by 31 Geo. II. and all grocery wares, silk, and drugs; and Dr. Ward supposes, that, from this use of it, it was first introduced; as it was customary to allow larger weight of such goods than the law had expressly enjoined; and this, he says, happened to be about a sixth part more.

N. B. An avoirdupois pound contains 1 lb. 2 oz. 11 dwts. 16 grs. troy.

CLOTH Measure.

2 $\frac{1}{4}$ inches make	1 nail
4 nails	1 quarter
4 quarters	1 yard, or 36 inches
3 quarters	1 ell Flemish
5 quarters	1 ell English
6 quarters	1 ell French

The yard is used in measuring all sorts of woollen cloths, wrought silks, most linens, tapes, &c. The ell English is employed in measuring some particular linens, called holland; and the ell Flemish in measuring tapestry.

D R Y Measure.

2 pints make	1 quart
2 quarts	1 pottle
2 pottles	1 gallon
2 gallons	1 peck
4 pecks	1 bushel
8 bushels	1 quarter
5 quarters	1 wey or load
4 bushels	1 coomb
5 pecks (water measure)	1 bushel
10 coombs	1 wey
2 weys	1 last
36 bushels	1 chaldron

By this measure, coals, salt, lead-ore, oysters, corn, seeds, fruits, roots, and other dry goods, are measured.

WINE Measure.

4 gills make	1 pint
2 pints	1 quart
4 quarts	1 gallon
10 gallons	1 anker of brandy
42 gallons	1 tierce
63 gallons	1 hoghead
84 gallons	1 puncheon
2 hogheads	1 pipe or butt
2 pipes	1 tun

By this measure, spirits, perry, cyder, mead, vinegar, oil, &c. are measured.

ALE and BEER Measure*.

● pints make.....	1 quart
4 quarts.....	1 gallon
8 gallons.....	1 firkin of ale
9 gallons.....	1 firkin of beer
2 firkins.....	1 kilderkin
2 kilderkins.....	1 barrel
3 kilderkins.....	1 hoghead
3 barrels.....	1 butt

N. B. 48 gallons of ale, or 54 gallons of beer, make an hoghead.

T I M E.

60 seconds make.....	1 minute
60 minutes.....	1 hour
12 hours.....	1 working day
24 hours.....	1 natural day †
7 days.....	1 week
4 weeks.....	1 month
52 weeks, 1 day.....	1 year
12 calendar months.....	1 year
13 lunar months, 1 day.....	1 year
365 days 6 hours, or 8766 hours	1 year

N. B. The calendar months, by which we reckon time, are unequally of 30 or 31 days, excepting February, which is of 28, and in leap-year of 29 days.

The addition of a day in the month of February is made every fourth year, to recover the six hours which the sun spends in his course each year, beyond the 365 days ordinarily allowed for it.

The year in which the above-mentioned intercalation takes place, is called leap-year, because a day of the week is missed; as, if on one year the first of March be on

* Milk is also retailed by this measure, which is about one-fourth more than wine measure. The difference between ale and beer measure was heretofore only used in the metropolis; and it is said that the London brewers do not at present make a distinction; a firkin, whether of ale or beer, containing nine gallons.

† A natural day is the time from noon to noon, or from midnight to midnight. An artificial day is the time between the rising and setting of the sun. See Chron. and Biog. Exer. art. Day.

Monday,

Monday, it will on the next year be on Tuesday, but on *leap-year* it will *leap* to Wednesday.

A lunar month contains 28 days, being the time which the moon takes in revolving round the earth.

A solar month is the space of time in which the sun passes through a sign of the zodiac.

A solar year, according to the usual computation, contains 365 days 6 hours : but the exact time, in which the earth performs its annual revolution round the sun, is 365 days, 5 hours, 48 minutes, and $45\frac{1}{2}$ seconds.

The NUMBER of DAYS in each MONTH, says Dr. Watts, are engraven on the memory of thousands by these four lines :

*Thirty days have September,
June, April, and November ;
February twenty-eight alone,
And all the rest have thirty-one.*

MOTION.

60 seconds make	1 minute
60 minutes	1 degree
90 degrees	1 quadrant
4 quadrants	1 circle

This table is used in geographical calculations.

WHEATEN BREAD.

	lb.	oz.	dr.
A peck loaf weighs	17	6	2
A half peck loaf	8	12	1
A quartern loaf	4	5	8
A peck of flour	14	0	0
A bushel of flour	56	0	0
A sack of flour, or five bushels, 280	0	0	0

N. B. Avoirdupois.

H A Y.

56 lbs. of old hay	} make.....	1 truss
60 lbs. of new hay		
36 trusses		1 load

PRACTICE

PRACTICE TABLE.

THE ALIQUOT PARTS OF A POUND.

<i>s.</i>	<i>d.</i>	
10	0	.....are the.....half
6	8	.....third
5	0	.....fourth
4	0	.....fifth
3	4	.....sixth
2	6	.....eighth
2	0	.....tenth
1	8	.....twelfth

THE ALIQUOT PARTS OF A SHILLING.

6	<i>d.</i>	.....are the.....half
4		.....third
3		.....fourth
2		.....sixth
1	$\frac{1}{2}$	.....eighth
1		.....is the.....twelfth

THE ALIQUOT PARTS OF A TON.

10	cwt.	.....are the.....half
5		.....fourth
4		.....fifth
2	$\frac{1}{2}$	.....eighth
2		.....tenth

THE ALIQUOT PARTS OF AN HUNDRED.

qrs.	lbs.	
2	or 56	.....are the.....half
1	or 28	.....fourth
	14	.....eighth

THE ALIQUOT PARTS OF A QUARTER.

14	lbs.	.....are the.....half
7		.....fourth
4		.....seventh
3	$\frac{1}{2}$	.....eighth

N. B. Aliquot parts are parts of any number or quantity, such as will exactly measure it without any remainder: as 3 is an aliquot part of 12, because being taken 4 times, it will just measure it.

THE WEIGHT OF CURRENT COINS

AS COINED.

	GOLD.	Troy.	
		dwt.	gr.
A guinea.....	5	9	$\frac{1}{2}$
Half a guinea.....	2	16	$\frac{1}{2}$
Seven shilling piece*.....	1	19	

WEIGHTS CURRENT.

A guinea.....	5	8
Half a guinea.....	2	16
Seven shilling piece.....	1	18 $\frac{1}{2}$

The standard for gold coin is 22 carats of fine gold and 2 carats of copper melted together.

SILVER.

A crown.....	19	8 $\frac{1}{2}$
Half a crown.....	9	16 $\frac{1}{2}$
A shilling.....	3	21
A sixpence.....	1	22 $\frac{1}{2}$

The standard for silver is 11 ounces 2 penny-weights of fine silver and 18 penny-weights of copper.

BOULTON'S† ORIGINAL COPPER COINAGE.

	Avoirdupois.	
	oz.	dr.
A twopenny piece.....	2	0
A penny ditto.....	1	0
A halfpenny.....	0	8 or half an ounce
A farthing.....	0	4 or a quarter of an ounce.

* Seven shilling pieces were first coined in 1797.

† See Boulton, Index.

COAL Measure.

4 pecks make	1 bushel
3 bushels	1 sack
9 bushels	1 vat or strike
36 bushels	1 chaldron
21 chaldrons	1 score
8 Newcastle chaldrons, or 21 tons 4 cwt. }	1 keel
20 keels, or 160 New- castle chaldrons }	1 ship load

N. B. The word chaldron at London and Newcastle denotes very different quantities. At London a chaldron contains 36 heaped Winchester bushels, and weighs on an average $28\frac{1}{2}$ cwt. (according to the quality of the coals). A Newcastle chaldron weighs 53 cwt. These weights being nearly in the ratio of 8 to 15, it is always reckoned that 8 Newcastle chaldrons make 15 London chaldrons. In some parts of the country 32 bushels make a chaldron.

A TABLE OF MISCELLANEOUS ARTICLES.

	lbs.
A firkin of butter is	56
A firkin of soap	64
A barrel of pot ashes	200
A barrel of anchovies	30
A barrel of candles	120
A barrel of soap	256
A barrel of raisins	112
A barrel of butter	224
A fother of lead is $19\frac{1}{2}$ cwt. or	2184
A stone of iron	14
A stone of butcher's meat	8
A stone of glass	5
A stone of hemp	32
A stone of cheese	16
A gallon of train* oil	$7\frac{1}{2}$
A faggot of steel	120
A seam of glass is 24 stone of 5 lbs. or	120

* This word should, perhaps, be written *drain* oil, *i. e.* oil which is drained from blubber.

	lbs.
A peck of falt	14
A bufhel of falt	56
A ton	42 bufhels
A quintal	100
A tub of tea	60
12 articles make	1 dozen
12 dozen	1 grofs
20 articles	1 fcore
5 fcore	1 common hundred
6 fcore	1 great hundred
24 fheets of paper	1 quire
20 quires	1 ream
21½ quires	1 printer's ream

Lemons, oranges, corks, and fome other articles, are often fold by the grofs; nails, tacks, &c. have fix fcore to the hundred.

1	2	3	4	5	6	7	8	9	10	11	12
2	4	6	8	10	12	14	16	18	20	22	24
3	6	9	12	15	18	21	24	27	30	33	36
4	8	12	16	20	24	28	32	36	40	44	48
5	10	15	20	25	30	35	40	45	50	55	60
6	12	18	24	30	36	42	48	54	60	66	72
7	14	21	28	35	42	49	56	63	70	77	84
8	16	24	32	40	48	56	64	72	80	88	96
9	18	27	36	45	54	63	72	81	90	99	108
10	20	30	40	50	60	70	80	90	100	110	120
11	22	33	44	55	66	77	88	99	110	121	132
12	24	36	48	60	72	84	96	108	120	132	144

EXPLANATION

EXPLANATION OF SIGNS USED IN
ARITHMETIC.

- = EQUAL TO.** The sign of Equality, as $20s. = \text{£}1$. That is, twenty shillings are equal to one pound.
- + PLUS.** The sign of Addition, as $6s. + 2s. = 8s.$ That is, six shillings added to two shillings are equal to eight shillings.
- MINUS.** The sign of Subtraction, as $8s. - 3s. = 5s.$ That is, three shillings subtracted from eight leave a remainder equal to five.
- × MULTIPLIED BY.** The sign of Multiplication, as $5 \times 6 = 30$. That is, five multiplied by six are equal to thirty.
- ÷ DIVIDED BY.** The sign of Division, as $20 \div 4 = 5$. That is, twenty divided by four gives a quotient equal to five.
- :** The sign of Proportion, as $6 : 4 :: 12 : 8$. That is, as six is to four, so is twelve to eight.

QUESTIONS FOR EXAMINATION,

ADAPTED TO THE FOREGOING WORK*.

WHAT is arithmetic? its chief rules? its origin? what European nations used the letters of the alphabet to represent their numbers? whence did arithmetic come to us? whence did the Arabic figures come to us?—What is numeration?—No. 1. What is chronology? what has it been called? what are the principal epochs?—2. What is the solar system? how many primary planets belong to it? what are their names?—3. What are comets? with what are they attended?—4. Why are the fixed stars so called? what are they supposed to be? which of them is the nearest to us? what is its distance?—5. What is writing? to whom is the origin of alphabetic writing ascribed?—6. What is addition?—7. In what time of the year was the world created? how long before the birth of Christ?—8. How many persons were saved in the ark? on what mountain did it rest? how is a rainbow formed?—9. Where was Abraham born? where was he buried? with what titles was he honoured?—10. Where was Moses born? upon what river was he exposed? who rescued him? through what sea did he lead the Israelites? what is said of a song which he composed on this occasion? where did he receive the decalogue?—11. Where was Troy situated? why was it besieged by the Greeks? how long? how was it taken? what poems did Homer write on this subject? what king was partial to them? who were the three

* The author acknowledges with gratitude that he is indebted for many of these questions to the ingenious Messrs. Holland, of Bolton in the Moors, who did him the honour to annex them to the third edition of their excellent work, entitled “Exercises for the Memory and Understanding,” published and sold at Manchester. The fourth edition of this valuable school-book is now on sale at Messrs. Longman’s and Co. London, where may be had Messrs. Holland’s other interesting publications.

greatest

greatest poets?—12. When Nebuchadnezzar took Jerusalem, how did he treat Zedekiah and his sons?—13. Which of the prophets predicted the destruction of Babylon? upon what river was it situated?—14. Where was the temple of Diana situated? what was it deemed? by whom was it destroyed? why? what were the seven wonders of the world?—15. Where was Saguntum situated? how did its inhabitants acquire fame?—16. Where was Numantia seated? how did its citizens obtain renown?—17. How far was Marathon from Athens? for what are its plains noted?—18. Where was Leuctra situated? for what was its district stigmatized? who were exceptions? who gained the battle of Leuctra?—19. The situation of Mantinea? why is it memorable? what battles did Epaminondas style his immortal daughters? what artist made a similar observation concerning painting? who were the Theban pair?—20. The situation of Thermopylæ? what heroic king was slain here? what miscreant betrayed his countrymen? how many Persians were slain? who destroyed the Persian fleet? where? how did Xerxes escape across the Hellespont? what may be learnt from his reverse of fortune?—21. The situation of Chæronea? who gained a victory here? what youth commanded a part of the victorious army? what orator saved himself by flight? what rhetorician died in consequence of this battle? what death did Philip die?—22. In what Mount did the Granicus rise? who gained a battle on its banks? who killed Darius? name the *four* battles of Alexander?—23. The situation of Carthage? who destroyed it? how did Asdrubal's wife act? what were the wars between the Romans and Carthaginians called?—24. The situation of Xanthus? how did the inhabitants acquire renown?—25. The situation of Pharsalia? for what is its neighbouring plain famous? what became of the vanquished general? who wrote a poem giving an account of the wars between Pompey and Cæsar? who was guilty of suicide at Utica?—26. What was Cæsar's favourite maxim? how many wounds did he receive from his murderers? where was he killed? how many battles had he fought? how many human beings were slain in them? where was Philippi situated? what put an end to the popular government at Rome? what poet made his escape from the battle of Philippi?

who

456 QUESTIONS FOR EXAMINATION.

who were the father and husband of Portia? how did she embrace death? how did Panthea shew her regard to her husband? how did three of her domestics exhibit their affection to her? why did Arria stab herself?—27. The situation of Actium? for what is it remarkable? what was a triumvir? who formed the two famous triumvirates? what dignified personage was born in the reign of Augustus? who was Cleopatra? how many of her female servants put themselves to death when she terminated her own life?—35. What is coin? what is money? where was money first coined of gold and silver? when did the first coining of silver and gold take place at Rome? where is the British coinage performed?—37. Where was Alexander Cruden born? what book did he write?—38. Where was Virgil born?—39. Where was Charles II. defeated?—87. Who finally destroyed Jerusalem? whose prediction was thus fulfilled? how many perished in the siege? in what year was Jerusalem destroyed? what has the dispersion of the Jews been termed;—88. In what county is Hastings? when was the battle fought? who gained it? what king was slain? what monarchy was overthrown? how did the conqueror treat his English subjects? where was he born?—89. What is the meaning of the word croisade? when was the first projected? by whom? where was he born? when the russian croisades took Jerusalem, how did they treat the inhabitants? how many human beings perished in the various croisades?—90. When was Ireland subdued? by whom? when was it united to England? what are the chief places in Ireland? its chief commerce?—91. When were the crowns of England and Scotland united? when were the kingdoms united? under what name? what are the chief places in Scotland? its chief articles of trade?—92. Who signed Magna Charta? where? when? what poet has noticed it?—93. Which of our kings first used the present motto of the royal arms of England? on what occasion was it adopted?—94. Which of our kings subdued Wales? who was the first prince of Wales? where was he born? when? where was he murdered?—95. When was the motto *Ich Dien* added to the arms of the Prince of Wales? of what is an ostrich the symbol? in what part of the scriptures is it mentioned? what poet has noticed its ill qualities?—96. In what department

department is Poitiers situated? who gained a victory here? when? what king was taken prisoner? what admirable sentiment did the king deliver? how many kings were entertained at one time by Sir Henry Picard in 1363? who were they?—97. In what department is Agincourt situated? who gained a victory here? when? what psalms did the conqueror order to be sung in gratitude to God for his success? what duke was accustomed to give thanks to God after a victory? what king always engaged in prayer with his troops before an engagement? what was David Gam's observation when he returned from reconnoitring the enemy before the battle of Agincourt?—98. Where is Towton? when was a battle fought here? between what rival houses? how many were slain? which party was victorious? what were the different symbols of the two contending parties? with whose descendants did these intestine wars originate? who was the right heir?—99. Where is Bosworth-Field? who lost his crown and life in this field? when? by whom was he succeeded? what crimes have been imputed to Richard III.? how many battles were fought between the houses of York and Lancaster? how many persons were slain in these contests? how were the interests of the rival houses blended?—100. What cities contend for the invention of printing? who has the best claim? who introduced this art into England? when? who was Janus? when was his temple open? how often had it been shut in 700 years? where was Homer born?—101. In whose reign did the Parisian massacre happen? in what year? how many were murdered in Paris? how many were butchered in the provinces? where was the bloody deed applauded?—102. In what year did the Irish massacre take place? at whose instigation? how many were slaughtered?—103. When did the Spanish armada invade this country? who was then England's sovereign? who commanded the English navy? where did it defeat the Spaniards? how did Queen Elizabeth perpetuate the memory of this victory? where was the commander of the armada shipwrecked?—104. In what year was the gunpowder-plot to have been executed? in whose reign? what was the design of it? by whom was it planned?—105. When was Charles I. beheaded? how many English monarchs died violent deaths?—106. What was the intention

of the act of uniformity? in whose reign did it pass? in what year? how many ministers left the church in consequence? what character does Locke give these worthies?—107. When did James I. abdicate the government? whither did he retire? where did he die? when?—108. Where did the Prince of Orange land in 1688? what is this interesting event styled? where was the Revolution planned? what is the house denominated?—109. What is the meaning of the term bankrupt?—110. What are merchants?—111. By whom were post-chaises invented? which of the Roman emperors invented an open carriage? what is supposed to have been the form of the Ethiopian grandee's chariot?—112. When were sedan-chairs introduced into London? where were they invented? in what department is the place situated? to whom did it give birth? what was he styled by Pope? what was his favourite maxim? where was he slain? when?—117. When did the French revolution occur?—118. In what year was our VENERABLE MONARCH, George III. born?—132. What is the form of our earth? how is its shape demonstrated? when were some mathematicians and astronomers sent towards the north pole and towards the equator to measure a degree, or the 360th part of a great circle? how many motions has the earth?—133. Where were coaches invented? when were they introduced into England? whence did Hackney-coaches obtain their name? what is the number kept in London? when were mail-coaches established?—144. What are anchovies? where are they caught? when? from what port are great quantities annually exported?—145. Whence are capers brought? In what situations do they grow? what are sometimes substituted for them in England? what has Dr. Delany observed concerning the word stink?—146. What is cat-gut? where is it made?—147. What is cork? where do the trees grow? what do the Spaniards make of it? what did the Egyptians make of it?—148. What is camlet? of what is the oriental camlet made? what European countries excel in the fabrication of this article? what place excels them all?—149. What is brawn? what places are noted for it?—150. What is cotton? where does it grow? what articles are made of it?—151. What are figs? what countries produce them? for what purpose did the ancients employ

employ the juice of figs?—152. What is fuller's earth? in what part of England is it found? how is it employed?—153. What is indigo? where is it cultivated? what colour is the drug extracted from it? by whom is it used?—154. What is ipecacuanha? whence is it brought? where does it grow plentifully?—155. What is liquorice? where does it grow? what country furnished us with a large quantity in 1785?—156. What is a receipt?—160. What county produces cherries and pippin apples?—161. What places are famous for asparagus?—162. Whence were Cos-lettuces brought to us?—164. Where was Mahomet born and buried? what occasioned his death?—165. For what is Woodstock noted?—166. For what is Kew-wood famous?—168. What is the character of the Hampshire bacon?—170. In whose reign did the wearing of buckles commence?—171. When was Addison's library sold?—172. Where does 'logwood grow? how is it employed?—173. What is mace? whence is it brought to us?—174. What are nutmegs? for what purposes are they used? which are the best? in what islands are they cultivated? at which end should they be grated?—175. What are mangoes? where do they grow? in what state are they conveyed into Europe?—176. What is manna? where is it found?—177. Who formed a conspiracy against our Saviour? who betrayed him? for what sum?—178. What is Cyprus? whence its name?—179. What is satin? what place was formerly noted for satin?—180. What are melons? which are deemed the best? whence were they brought to Rome? in what part of Turkey do they grow in abundance? from what place are melons sent to Surat? whence are melons sent to Moscow? to which of our kings did the eating of this fruit prove injurious? where did he die?—183. From what is cider made? which are our chief cider counties?—185. When were artichokes first introduced into England?—186. What king was killed by a tile thrown at him by a woman? where?—187. What poet was choked by swallowing a roll too hastily?—188. Whence are French prunes brought?—189. For what is Le Mans famous?—190. Where are Jampreys caught? which of our kings died in consequence of eating too freely of them?—193. What place was formerly noted for mustard? where is it now made?—199. What places are noted for fowls?—202. What did Dr. Johnson

receive for his dictionary?—203. What is millet? where does it grow?—204. What is true nobility? what did Maximilian say to a man who wished to be ennobled?—205. What is mithridate? who was its inventor? who carried the recipe for making it to Rome?—207. What is musk? whence is it brought to us? of what size is the animal that produces it? how is it employed? what are its effects?—208. What is myrrh? where do the trees grow which produce it? for what purpose is it chewed? in what art does it make a principal ingredient? who brought some myrrh to embalm our Saviour? what are aloes? where does the best aloes wood grow? where do the aloes used by perfumers grow? where does the aloes plant grow whence a liquor used in embalming is extracted? where do the aloes grow which are used as horse-medicines?—209. What are olives? of what is the tree on which they grow an emblem? to whom was the laurel sacred? what victors wore laurel crowns? who crowned Ariosto the poet with laurel? what were the most famous Grecian games? on whom was the civic crown bestowed? what two eminent characters received one? whence are olives brought to us? what legislator permitted the poor to share a remnant of the olive-berries? what poet addressed some lines to the British husbandmen on the subject of benevolence to the poor?—210. To what purposes is oil of olives applied? whence is it imported? whom did the Jews anoint with oil? to what other purposes did they apply it? in what act of civility did they use it? who was cast into boiling oil at Rome? whither was he banished? where did he die? what singular property has oil?—211. What is spermaceti oil?—212. What is spermaceti? how is it employed?—213. What is opium? whence is it brought to us? what are its properties?—214. What are oranges? how is the juice of Seville oranges employed? and that of the China or sweet orange? whence are oranges brought to us?—215. What are lemons? what are their properties? how are citrons distinguished from lemons? what are limes? are they larger or smaller than lemons? who was Pomona? who was Vertumnus? what forms did he assume to please Pomona?—216. What is paper? on what materials have mankind contrived to write their sentiments? of what is paper chiefly made among us? whence is the word paper derived?

derived? where was the first paper mill in England erected?—217. What are parchment and vellum?—218. What is pepper? where does it grow? how is it sometimes sophisticated? how does long pepper obtain its name? where does Guinea pepper grow? whence is Cayenne pepper brought? where does Jamaica pepper grow? what are its qualities? who was Galen? where did he die? when? who was Hippocrates? where was he born? when did he die?—219. What are potatoes? whence were they originally brought? where do they form the chief food of the common people? of what are the Abyssinians fond? the Tartars? the Greenlanders? the Spaniards? the French? the Swiss? what fish do the Highlanders reject? in what part of Ireland were potatoes first planted? by whom? what part of America was the natural soil of potatoes? what English county excels in the cultivation of this vegetable? of what benefit has this root been to the New-Zealanders? who introduced it into that island?—220. What are raisins? what places produce them? what are their virtues?—221. Of what countries is rhubarb a native? whence do we import it? what effect has it upon the stomach?—222. What are shauls? of what are the Eastern shauls made? where are they made in England?—223. What are spectacles? from whose writings was the hint of their construction derived? in what city were they invented? to whom has this glorious discovery been ascribed?—224. What is sponge? whence are sponges brought? what island is particularly famous for them?—225. What are tamarinds? what are their qualities?—226. What is tartar? which is the best? whence is it brought to us? what are its properties?—227. What are news-papers? where was the first news-paper published? on what occasion? what does Dr. Knox say of news-papers? what does Janius say concerning the liberty of the press?—228. How are wafers made? how are the different colours produced?—229. What is sealing-wax?—230. What are yams? where are they cultivated? who are fed upon them? where do they grow wild?—231. By whom were watches invented? in what year? where does Hume say that pocket watches were invented?—232. What are cards? when were they invented? in what number of the Rambler does Dr. Johnson condemn these pestilential time-wasters?—233. Where did cherries grow spontaneously? by whom

were they brought to Rome? in what year were they conveyed into Britain? what ill effects have arisen from the swallowing great quantities of cherry-stones?—234. What is ginger? where does it grow naturally? what are its qualities?—235. What is castor oil? in what complaints is it employed? whence is it brought to us?—236. What is bark? where does the tree grow which produces it? when was its virtue first generally known? by what names has it been known?—237. Where is the coffee-tree cultivated? whose garden at Vienna produced sufficient for his own consumption? what country produces the best coffee? how long has it been known in Europe? when was it brought into England? by whom? what are its good qualities?—238. Where does the cacao or chocolate nut tree grow spontaneously? where is it cultivated? what tree does it resemble? in what is the fruit enclosed? what liquid is made from it? with what does the tree which bears the large nuts furnish the Indians? what poet alludes to it?—239. Which are the only birds that sing as they fly? what is the sky lark termed by Thomson and Shakespeare? at what season of the year does it begin its harmony? what instruction does the lark's matin song impart to man? in what English county are larks caught in great abundance? what place in Germany is famous for larks? when does the lark season commence and terminate in England? what is Division?—243. What is the source of light? how long is light passing from the sun to us?—244. What is the difference between manufactures and productions?—245. What is a tradesman?—246. What is a mechanic? which of our poets has applied contemptuous epithets to them?—247. What is a peasant? who are the boast and strength of an empire? who are supported by the labour of the artisan and the peasant?—248. What is longitude? to how many degrees does it extend?—249. In what island is Botany-Bay situated? at what places did the Squadron touch which conveyed Governor Phillip thither in 1787?—250. To what class of islands does Amboyna belong? in what year did the Dutch massacre the English in this island? in which of our kings reigns? how much did Cromwell compel the Dutch to pay on account of this infamous transaction?—251. On what river is Calcutta situated? how many Englishmen were suffocated.

suffocated here in the Black-Hole prison in one night? when? who defeated and deposed the Nabob in 1757?—252. Where is Baldivia situated? by whom was it built? what death did he die? what Roman triumvir experienced a similar death?—253. What is the situation of Juan Fernandez? by what circumnavigator was it visited in 1741? of whom was it the solitary residence for the space of four years? to what celebrated romance did this circumstance give rise? by whom was it written? what was his character? where and when did he die?—254. What is the velocity of the earth per hour at the equator?—255. At what rate per hour are the inhabitants of London carried by the earth's rotation on its axis?—256. How many miles did Mr. Thornhill ride in twelve hours and a quarter? between what places? what are the names of the places mentioned in this question?—257. Who travelled 125 English miles in a day? who travelled from London to York and back again in 148 hours?—258. What important lesson does the story of Joseph's being sold into Egypt convey to youth?—259. What is an Englishman's house deemed? what did the great Earl of Chatham say on this subject?—260. What authors have pointed out the mischiefs of lotteries? by whom were they invented? when was the first lottery drawn in England?—261. Where did Pope write his account of the Man of Ross? what was his income? what was his name? where was he born? when did he die? at what age?—262. When were posts first established in England? what birds have been employed as the vehicles of postage?—263. What is a mayor? in what places are they called Lord-Mayor? when was the title of Lord first annexed to the mayor of London? on what account?—264. What is the British constitution? what is the meaning of the word loyalty? what is implied by the old maxim, that the King can do no wrong?—265. What has Mr. Sheridan observed concerning a king of England? what is the monarchy of the British kingdom? from whom does the monarch derive his power? to whom is he accountable for the delegated trust?—266. What is the consequence of the daily rotation of the earth? what is occasioned by its annual motion? what is its rapidity per hour in its course round the sun?—267. What places did Anson visit in his celebrated voyage round the

world ? when did he return home with the Manilla ship ? what was its value ? who wrote the account of the voyage ? where did he die ?—275. What sum was offered for apprehending the young Pretender after his defeat at Culloden ?—276. Who allowed Addison a pension to enable him to travel through Italy ?—277. Who presented Steele £500 ? on what account ?—283. When did the system of punishing on board the hulks commence at Woolwich ?—285. What has Lord Erskine been termed in consequence of his eloquence ? what sum did he receive for defending the brave Keppel ?—286. What has Miss Linwood been offered for her needle-work copy of the Salvator Mundi from a picture by Carlo Dolce ?—287. How much did Mrs. Thrale receive for a copy of the letters which were written to her by Dr. Johnson ? where was he born ?—289. How many wives had the tyrant Henry VIII ? which of them survived him ? where was she born ?—291. By whom was the shoeing of horses introduced into England ? what eminent characters were the sons of blacksmiths ?—292. Whence is rice brought to us ?—298. What places are noted for blankets ?—299. What towns are famous for cutlery ? when were knives first made in England ?—301. Whence were turnips brought to us ?—302. Where was Alfred born ? what instance is recorded of his charity ?—307. What places are noted for earthen-ware ?—308. What places are famous for straw hats ?—309. What place supplies London with ducklings ?—310. What countries produce large clusters of grapes ? what eminent poet was choked with a grape-stone ? where was a beloved female suffocated by a grape ? where are our two celebrated grape trees ? what sum has been given for a year's crop of one of them ?—311. What sum of money did the Duke of Bedford offer to save his son's life ?—312. Where was Boerhaave born ? what fortune did he acquire by his profession ?—313. What sum did Abraham pay for the cave of Machpelah ?—314. Of what did the present given to Rebekah consist ?—315. What did Joseph give to Benjamin in Egypt ?—316. Who betrayed Samson ? for what sum ? whence is the word Palestine derived ? what other words are synonymous with this ? how long did Samson judge Israel ? where was he imprisoned ? how many Philistines were killed at his death ?—317. Where did Haman reside ? who was

was interred there?—319. When was Lisbon nearly destroyed by an earthquake? what sum did we send to the surviving sufferers?—320. What sum did Cromwell collect for the persecuted Protestants in the vallies of Piedmont? what was the consequence?—321. What places are noted for the making of lace?—322. How did Virgil shew his piety to his parents? where was he born? where was he taken ill? where did he die? where was he buried?—323. What sums did Sheldon expend in charities in fourteen years?—325. For what is Bologna famous? what orator's father was a sausage-maker at Athens? of what are the Bologna sausages said to be made?—326. Who defended Londonderry in 1689? what sum did he receive for that noble service?—327. What places are mentioned in this question?—328. Whence are hams usually brought?—329. Whence are eggs brought to London for the sugar-refiners? at what places are there springs of hot water?—330. For what is Dudley noted? how was Sifera killed? where?—331. What is tin? how long before the Christian era has it been found in Cornwall?—333. Of what is black ink made?—334. Whence do we receive Indian ink? of what is it made?—335. How is red ink prepared?—336. Who was born at Stratford-upon-Avon? what tree did he plant there?—337. Where are lobsters caught?—338. What county is famous for rabbits?—339. For what sum did Tillotson's posthumous sermons sell? by which of our kings was he much esteemed?—342. Of what are pins made? in what county are great quantities made?—344. What is the distance between the Royal-Exchange and Richmond?—346. For what is the snow of Mount Etna purchased? where are lemonade and cold water sold in the streets?—351. What places are celebrated for oysters?—352. How is salt procured? where are the most noted salt mines. &c.?—353. What sum did Apicius the Roman glutton spend in his kitchen? what occasioned his death?—354. What is silk? where are silk-worms bred?—355. Where was Queen Elizabeth born? where and when did she die?—356. Why are Stratford-upon-Avon, Twickenham, Stoke-Pogeis, Hackney, and Richmond, interesting places?—357. By what means are exotic plants reared and preserved at Kew and in other parts of England?—358. For what discovery did Dr. Jenner receive ten

thousand pounds from the parliament?—359. What is the colour of saffron? what dye does it yield? whence was it brought into England? where is it chiefly cultivated?—360. Whence did Correggio derive his name? when did he die? what occasioned his death? where is his best picture?—361. What is a university? where are ours?—362. How many hogheads did a glass bottle made at Leith contain?—363. What is an observatory? when was that in Greenwich-Park begun?—364. Where are there asylums for the indigent blind? who left a large sum for the relief of blind persons? where was Uz situated?—365. What generous action did Bishop Gibson perform? where was he born?—366. Which of our kings coined silver farthings? In whose reign were copper farthings coined? how many farthings were coined in Queen Anne's reign? what Roman general begged for a farthing? what eminent characters have sustained the loss of their visual sense?—367. When did Handel's first commemoration take place in Westminster-Abbey? what sum did it yield?—369. Who wrote a poem called The Splendid Shilling? what moral does it contain?—370. Whence did our gold coin called a guinea derive its name?—371. Who translated the Iliad and Odyssey of Homer? what does Dr. Johnson style the translations? when did Pope die? where was he buried?—372. Where did the profligate Duke of Buckingham die? which of our poets has described this affecting event? what was the annual value of the estate which he had squandered away?—373. By what means was Vitellius raised to the throne? what sum was spent to maintain him only seven months? into what river was the mutilated body of this glutton and tyrant thrown?—374. By whom was the Royal-Exchange originally built? when was it destroyed? when was the present building erected? what did it cost?—375. What is a patriot? who was an eminent example of patriotism in the profligate reign of Charles II. ?—376. What was the dignified declaration of General Reed at Philadelphia when he was offered a bribe of ten thousand pounds? to which of our kings was Sir Robert Walpole prime minister? how long? what was his shameful boast concerning the degeneracy of mankind? when did he die?—377. Where did Timothy Bennett reside? what was his favourite expression? what public benefit is still enjoyed in consequence of his patriotic conduct?

duft?—378. What is sweeter than the bee's collected treasure, or sweet music's melting fall?—379. Who murdered the virtuous Humphrey, Duke of Gloucester, regent of England in 1447? where? was the murderer himself happy in his dying moments? where did the pious Addison die? what did he teach us?—380. What is meant by the term equality, when taken in the sense meant by its rational advocates? what was Lord Kenyon's admirable observation concerning the laws of England?—381. When did the fire of London happen? where did it begin? how many days and nights did it last? how many streets and houses were destroyed? what building commemorates the calamity? who was the architect?—382. What is the Koran? for what is the village of Bray noted? who was its vicar?—383. What is the best source of generosity?—384. Who built St. Paul's? in how many years? what did it cost? when did Sir Christopher Wren die? at what age?—385. What Roman emperor built a bridge in Hungary over the Danube? who designed the Rialto at Venice? at what places are there bridges of boats which rise and fall with the water? at what places in the United-Kingdom are there noted bridges? in which of our kings reigns was London-Bridge finished? when was Westminster-Bridge completed? when was Blackfriars-Bridge finished?—386. By whom have aged and infirm horses been treated with tenderness? in what country are they used mercifully? where are they ill-treated? who made his horse a consul? who built a city or fortrefs in honour of his horse? where is the horse deposited which Peter the Great rode at the battle of Pultowa?—387. Which of our kings sold Dunkirk? of what country was he the base and ignoble pensioner? what were Scylla and Charybdis?—388. To whom was Jotham's fable delivered? to whom was Nathan's addressed? who was Æsop? where did he reside? where and in what manner was he put to death? when?—389. Against what illustrious character did the infamous judge Jefferies prevail on a partial jury to give a verdict? what places were the principal scenes of his ferocities after the Duke of Monmouth's rebellion? how was he rewarded by the bigoted despot James II.? when and where did the execrable Jefferies die?—390. What does the term *infanta* imply? what portion had Charles II. with the *infanta* of Portugal?—391. What is the meaning

of baubee? for what manufacture is Paisley famous? near what populous city is it situated?—396. Which of our kings pawned some valuable articles to carry on the war with France?—397. In what countries is gold found?—398. What did Abraham give for a sepulchre at Machpelah? where is the richest silver mine? by whom are the gold and silver mines in America wrought? with what metal were the mules of Nero shod when he went short journies? and those of his wife?—399. Who had his horse shod with silver shoes at his public entrance into Paris?—400. What is a giant? where was Goliath born? by whom was he slain? where was David born? where did he die? when?—401. Who was Ossian? how much did the Countess of Suffolk obtain for her hair at Hanover? for what personal ornament was Absalom remarkable? where was the battle fought between David and Absalom? who slew the latter?—402. Where is Peru? what drugs does it produce? where is Potosi?—403. Where was the valley of Achor situated? who were burnt in it? why?—406. Where is Malaga seated? its commerce?—409. What was a battering-ram?—410. Whence were hops brought into England? in what counties are there large plantations of hops? when did Julius Cæsar land in Kent?—411. What is a Colossus? who made the one at Rhodes? in how many years? to whom was it dedicated? how was it destroyed?—412. What is the instrument of universal industry? what monarch learnt the business of a blacksmith? at what place near a lake did he forge a bar of iron? when?—413. Where are our chief copper mines?—414. In whose reign were the *Tatler*, *Spectator*, and *Guardian* published?—Who were the principal writers? by what signatures are Addison's papers designated?—415. Who were the two most extraordinary instances of corpulency in this country? where did they reside? where and when did they die?—416. To whom is the invention of bells attributed? among what people were they anciently used? who introduced them into churches? when? why has Britain been termed the ringing island? under what race of kings did the custom begin with us?—417. How were oxen anciently employed in the East? how are they used at Bombay, Surat, and in Spain? what Egyptian deity was worshipped under the form of an ox? why? who employed oxen in a dexterous

a dexterous stratagem? what is related of Milo?—418. Who coined the penny and two-penny pieces now in circulation?—419. Who erected a monument to the memory of Peter the Great? when? who was the statuary? when was it completed?—**APOTHECARIES-WEIGHT.** When were the company of Apothecaries incorporated? from what company were they then separated? where was Dr. Mayerne born? when and where did he die? where is Loretto situated? for what has it been long celebrated? when was the College of Physicians instituted?—**CLOTH-MEASURE.** By whom and when was the art of weaving woollen cloth brought here? of what are fine and coarse linen made? when was it first manufactured here? when and by whom was it introduced into Ireland? in what other countries is it fabricated? what proofs do the scriptures afford of the antiquity of linen? what polished nations were without the conveniency of linen? what was remarked of Augustus? what supplied the place of shirts among the Jews, Greeks, and Romans? what was the tunica? what did the people of fashion wear over it? how were the tables of the ancients cleaned after their meals? what did they use instead of napkins?—422. Who raised a rebellion in Scotland soon after the accession of George I.? who disturbed the national tranquillity again in 1745? where was he defeated the following year? whence did he escape, and where did he land in France?—423. What is weaving? where did a man weave an entire shirt? what august personage had a vest woven in one whole piece?—424. What is the asbestos? what property does it possess? where is it found?—425. What is huckaback? where is it made?—426. What is cambric? whence its name? where is Cambrai situated? who was its archbishop?—427. Into what part of Scotland did a colony of Scots introduce the linen manufactory? in whose reign?—428. What are the names of the various linens exported from Scotland?—429. Whence do osnaburgs derive their name? in what part of Scotland are they now made? where are filecias manufactured? whence their name?—430. What is diaper? whence its name? what place in our island is noted for its manufacture of diaper?—431. What is damask? whence its appellation? for what is the place noted? who was converted to the
 Christian

Christian faith in going thither?—432. What is Holland? where is it principally wrought? its chief mart? what is a turbant? what is the difference between the Turkish and Persian turbants?—433. What generous proof of patriotism did the females of Philadelphia and its vicinity exhibit in the war with England? when and where did the illustrious Washington close his virtuous and heroic life?—434. How many people in Spain were without shirts in 1660, in consequence of distress occasioned by war?—435. What is partial evil? what is a volcano? where are the chief?—436. When did the first eruption of Vesuvius occur? whom did it suffocate? what cities were then overwhelmed?—437. Who erected a silk-mill at Derby in 1714? whence was the model of it brought? in what proportion does it lessen human labour?—438. Where did Hannibal begin his famous march to invade Italy? what celebrated mountains and rivers did he cross before he arrived in that country? what celebrated generals have since passed the Alps? where did Hannibal fight his four principal battles in Italy? where was he finally defeated by Scipio? by what means did he embrace death?—439. Where was Cunaxa situated? who conducted the heroic TEN THOUSAND in their arduous retreat? what English poet has delineated this glorious exploit? at what place on the Black Sea did they embark for Greece?—440. What is the circumference of the earth at the equator in degrees and in English miles?—441. Into how many yards has a pound of raw cotton been spun?—442. What is worsted? whence its name? what articles are made of it? into how many miles in length has a pound of worsted been spun?—443. What is the meaning of the word fund, or stock? when was this mode of borrowing money introduced into England? what is the amount of our national debt in the present year 1810?—444. What is remarkable of Marcle-Hill?—446. What is a pyramid? for what were the pyramids of Egypt designed? for what did the Hebrews long in the wilderness? for what does Juvenal ridicule the Egyptians? what was the usual food of man in ancient times? in what country is garlic much eaten at present?—447. How many human beings perished in Holland by two inundations?

tions? how and when were the Goodwin-Sands formed? —448. Who first planted a garden? where? what did it contain? in what works are the pleasures of a garden strongly recommended? what ancient philosopher fixed the seat of his enjoyment in a garden? where was the garden of Alcinoüs situated? where are the most magnificent gardens in England?—449. By whom was great part of North-America colonized? why did they leave England? when did the colonists take arms against the mother-country? when did they become independent? by what title are they known? who was their general in the war? —450. What endears England to its natives? why does a Briton walk with a firm step among his fellow-citizens? why does he pursue his daily labours cheerfully? what may be truly said of the British constitution, as established at the glorious revolution?—451. How many millions of acres do the waste lands of Great-Britain contain?—452. What is the use of wheat? of what is the wheat-sheaf an emblem? what goddess was decorated with a wheaten garland?—453. How many bushels of grain are annually stolen from the fields near London?—454. What are the principal sorts of beans cultivated in the English gardens? which of our poets has noticed the odoriferous emissions of bean blossoms? for what is Arabia famous?—455. Who first indicated the use of corn? what countries lay claim to this discovery? what country was anciently the most fertile in corn? what poet has described the process of cultivating it? in what nations does agriculture best flourish? what heroic Roman was taken from the plough and advanced to the dignity of consul and dictator? for what purpose was the order of Cincinnatus established in America in 1783?—456. What is the chief use of barley in England? how is it often employed in Scotland? what is pearl-barley?—457. What is malt? how is barley converted into malt?—458. What is coal? to the inhabitants of what place was the first charter granted for digging coal? when and by whom? whence are our coals chiefly brought? of what glorious fight have some of the colliers been deprived during their whole lives? for what class of people is the coal trade the best nursery? what poet has noticed this circumstance?—459. In what months are nuts gathered? by what stratagem was Amiens taken

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in 1597?—460. In what part of the eastern ocean do whirlwinds render the navigation dangerous? what was the name of the wind which tossed about the ship in which the apostle Paul was sailing? what is implied by Adria, in ancient geography? what island was nearly ruined by a hurricane in 17??—461. What countries does Mount Lebanon separate? what character do travellers give its wine?—462. Where was Helbon wine made? by whom was it usually drunk? where was Tyre situated? by what advantages was it puffed up? by whom was it destroyed? what other places afford instance of the instability of commercial greatness? where was Phœnicia situated? for what were its inhabitants famous?—463. In what part of France is muscadine wine made? whence its name?—464. From what is palm wine extracted? what ancient place was called the city of palm-trees? why? where do palm-trees grow? on what occasions were the branches worn? what great personage was conducted into Jerusalem by a multitude *ibns* decorated? whence the origin of Palm-Sunday? what is the meaning of the word hofanna?—465. Whence does Constantia wine take its name? where is the Cape of Good Hope? when and by whom was the way to the East-Indies by this Cape discovered? to whom does it now (1810) belong?—466. Which were the two most ancient taverns in London? of what works was Sir John Hawkins the author? when did he die? what did the term cavaliers imply? what did the phrase round-head mean? into what word were these terms afterwards changed? where was Robert Burns born? where did he die? when? who wrote his life? when and where did this elegant writer expire? why do many men now spend more time at home and less at taverns than they did formerly?—467. To what household does the poet-laureat belong? which of our old poets assumed this title?—468. Whence did port wine derive its name?—469. On the banks of what rivers are excellent German wines made? what is old Rhenish wine called? why? what is the meaning of Palatinate? at what place on the river Neckar is there a large wine vessel?—470. How many hogsheads does the tun of Konigstein hold? how far is it from Dresden?—471. Which are the three French wines mentioned by the poet Thomson? in what department

ment is the tun of St. Bernard situated? how many tuns does it hold? when did this faint die?—472. In what ocean is Madeira situated? to whom does it belong? who now (1810) holds it in trust?—473. What are the principal Spanish wines? in what part of Spain are they made? in what district are mountain and tent wine made? in what province is La Mancha situated? why is it celebrated?—474. Whence is Malmsey wine now brought? whence its name? what duke was drowned in a butt of Malmsey? where was he interred? where was Maximinius assassinated? how much wine did he drink, and what quantity of meat did he devour, in a day? which of our kings was shipwrecked at Aquileia?—475. Whence is the wine called sack brought? what does the word import mean?—476. In what parts of England and Wales were there formerly vineyards? from how many sorts of fruit, &c. do our good housewives make a pleasant vinous beverage? what poet has enumerated several of them?—477. From what are our domestic or *made wines* chiefly made? where are they principally manufactured?—478. Which of the Roman poets extolled the wine of Falernus? where was the district situated? at what places was wine formerly cheaper than water? what parts of modern Italy produce good wine?—479. Whence come the wines denominated Greek or Turkey wines? by what poets are they praised?—480. Where is Tokay wine produced?—481. What is implied by the word claret? what part of France produces the finest clarets? which of our kings was born at Bourdeaux?—482. What rank does Schiras hold among the cities of Persia? what has it been termed? why? to what modern public character did it give birth? what places has he visited? what epithet has been applied to Schiras in consequence of its pleasant situation? who destroyed Persepolis? where did Alexander the Great die? where was he born? where was he buried?—483. What hospitable character is mentioned by Homer? why did the ancients receive strangers with respect? by whom was hospitality recommended in the scriptures? to whom do the Hindoos extend their hospitality? what is said of the Fezzaners and of the ancient Scots on this subject? how many horsemen did Gellias once clothe? what did the opulent among the
ancients

ancients accumulate besides gold and silver? what portions of scripture allude to this custom?—Page 294. What are ale and beer? where was this liquor originally made?—No. 484. What places in England are noted for ale? what, according to Goldsmith, does it impart to the poor man's heart? what unfortunate persons were anciently presented with a bowl of ale? what is said of the sadder of Bawtry? why were intoxicating draughts anciently given to malefactors? what was the foundation of this humane custom?—485. Where are the places situated which were formerly noted for beer? where was the renowned Franklin born?—486. What is spruce beer?—487. By whom was Queen Elizabeth entertained at Kenilworth-Castle? how many days? what was the diurnal expense? what did a citizen of Abdera say of a repast of Xerxes?—488. Where is the largest beer cask in London?—489. How did porter obtain its name? where was it first brewed? when? where was it first retailed? of what works was Dr. Ash the author? where and when did he die?—491. What is mum? what place is noted for making it? whence its name?—492. What are brown stout and stingo?—493. What is meant by the term nut-brown when applied to malt-liquor? which of our poets have noticed this nutritive beverage? where and when did king Hardicanute die?—494. Why is time granted to man? what was one of the three things of which the elder Cato repented? what occasioned a Roman emperor to exclaim that he had lost a day?—495. What is the character of Virgil's epitaph? name the places where he was born, died, and was buried? where is his tomb still shewn?—496. How many years did Enoch live upon our earth? what then became of him? what other person experienced a miraculous removal from our planet? what may be inferred from these events?—497. What is meant by the term antediluvian? what was the age of the oldest?—498. Who are postdiluvians? how old was Jenkins at his death? where was he buried? how old was Parr? where was he born and interred?—499. How did Alfred divide his time?—500. In what part of the scriptures is early rising recommended? which of our poets have some beautiful passages on this interesting subject? what learned writer recommends it? what eminent

nent divines practised it?—501. What is navigation? what discovery enables modern to excel ancient navigators? what is the mariner's compass? by whom and when was it invented?—502. Where did General Wolfe terminate his brilliant career? when? to what have Bayonne, Pistoia, Friesland, Carron, Toledo, Ferrara, and Bilboa imparted names? what is Whiskey? where and when did Bayard, Gaston de Foix, Sidney, Gustavus Adolphus, Caillemore, Peirson, Defaix, Abercrombie, Nelson, and Moore finish their heroic lives?—503. Who is styled the patriot of the world? where and when did he die?—504. Where was Captain Cook born? how many times did he circumnavigate the globe? where and when did his death happen?—505. What is peace? which of our poets has described its blessings?—506. What are the consequences of war? what poet has described the horrors of a field of battle after the butchering is over?—507. For what purpose does a good king wish to prolong his days?—508. Where and when was the illustrious Lord Russell decollated? what has his death been termed? where did he reside many years? what was the character of his lady?—509. How many persons suffered death by fire in the reign of the bigoted Mary? who were the bishops employed by the sanguinary queen? what does Hume observe of religious persecutions? where were Ridley and Latimer burnt? where did the term Protestant originate? what professors of Christianity does the term include?—510. What extraordinary occurrences happened in the seventeenth century? in the eighteenth? what were the discoveries of Cook, Herschell, Wedgwood, Arkwright, Boulton, Priestley, Jenner, and Lancaster? what is a telegraph? by whom was it invented?—What is the Rule of Three Direct?—527. By what great personage is Lancaster's admirable system of education patronized? what benevolent wish did our venerable monarch express to Mr. Lancaster?—528. What is the advantage of machinery in manufactures?—529. What is spikenard? where is it found? where was some poured on our Lord's head?—530. What is mead?—531. What is metheglin? whence came the expression honey-moon?—532. What is honey? what poets have noticed bees? what places were anciently noted for honey? what modern places produce the best? what modern
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and ancient warriors injured their health by eating honey ? —533. What is wool ? who discovered the art of combing wool ? in what part of England was cloth manufactured for the Roman emperors ? which of our poets has described the process of sheep-shearing and its consequences ? how many sheep are maintained in England ? what place has been long noted for a wool mart ?—534. What is the principal article of our foreign trade ? in what year did Edward III. invite persons from the Netherlands to improve our woollen manufacture ? whose tyranny drove the weaving art from the banks of the Scheld ? what was his infamous boast on leaving the Netherlands in 1574 ? by whom were the fugitives from that country well received ? where did they establish manufactures ?—535. What is tea ? where and by whom was it first brought into Europe ? into England ? its price at that period ? what bishop was a great tea-drinker ? what did Dr. Johnson say of tea ? against what vice is tea said to be an antidote ? what does Waller observe of it ? whose company is deemed a considerable addition to its value ? why ?—536. How is tea adulterated in China and in England ?—537. What is cheese ? what is runnet ? of whom did the English learn the art of making cheese ? what places in Somersetshire and Huntingdonshire are noted for cheese ? what place in Italy is famous for cheese ? what other places are celebrated for cheese ? what English counties make the most cheese ? what is the usual weight of a Cheshire cheese ? what was the weight of the largest ? what is arnotta ? what colour does it dye ? where is it produced ?—538. What is cyder ? what effect have apple blossoms on the air and inhabitants of Herefordshire ? what are the qualities and effects of Devonshire cyder ? in what county has Herefordshire cyder been taken for wine ? from what apple is the best cyder made ? what poets have extolled the cyder of Herefordshire ?—539. What is perry ? from what pear is the best sort made ? by what calamity was Ariconium destroyed ? where was it situated ?—540. What is a book ? whose writings are the most ancient ? which is the oldest profane book ? what have books been termed ? what did Dr. Parr say of his books ? what does Dr. Aikin observe of books ? who pined himself to death in consequence of the loss of his books ? what advice did Dr. Johnson give
young

young people concerning books ? who read in his chariot during a journey ? what eminent physicians have written in their carriages ? what caused the sorcerers of Ephesus to destroy their books ? where was this place situated ? —541. By what rule did the servants of Lucullus regulate the expense of his entertainments ? which was his chief apartment ? what eminent characters once supped in it ? in what way was the table of Socrates supplied ? what did he remark concerning his guests ? why do wise men eat ? why did Hannibal take sustenance ? how did Socrates escape the plague at Athens ? what was the usual food of Zeno ? what were his followers called ? why ? what is observed of sleep in Ecclesiastes ?—542. What is the highest panegyric ? what may be learnt from Paul's conduct towards Onesimus ? how are old servants treated by the Spanish grandees ? how did Pliny and the Earl of Corke treat their domestics ? how does Mr. Southey say the character of a person may be known ?—543. What is brandy ? where is the best made ? what are the consequences of the intemperate use of spirits ?—544. What is rum ? what number of gallons does Jamaica produce annually ? when did we obtain this island ?—545. What is sugar ? to what country was it indigenous ? in what countries was it planted in passing from Asia to America ? by whom is it cultivated in the West-Indies ; when was the infamous slave-trade abolished in the United Kingdom ? by what poets has this wicked commerce been noticed ?—546. What is a goose ? which of its qualities once saved the capitol at Rome ? to what age has a goose attained ? how often are geese plucked annually ? in what work is this barbarous custom censured ?—547. What is a pen ? what is meant by the word in the scriptures ? who were killed by these implements ? who translated Pliny's Natural History into English with one pen ? whence come many of the quills used in England ?—548. What is glass ? whence is pulverine brought ? what poet has described the process of glass-making ? where did the accidental discovery take place ? at what places was the art first regularly practised ? In what country were glass windows first used ? when was glass first manufactured in England ? where and when were looking-glasses first made in England ? in what English county is there now an extensive
 glass

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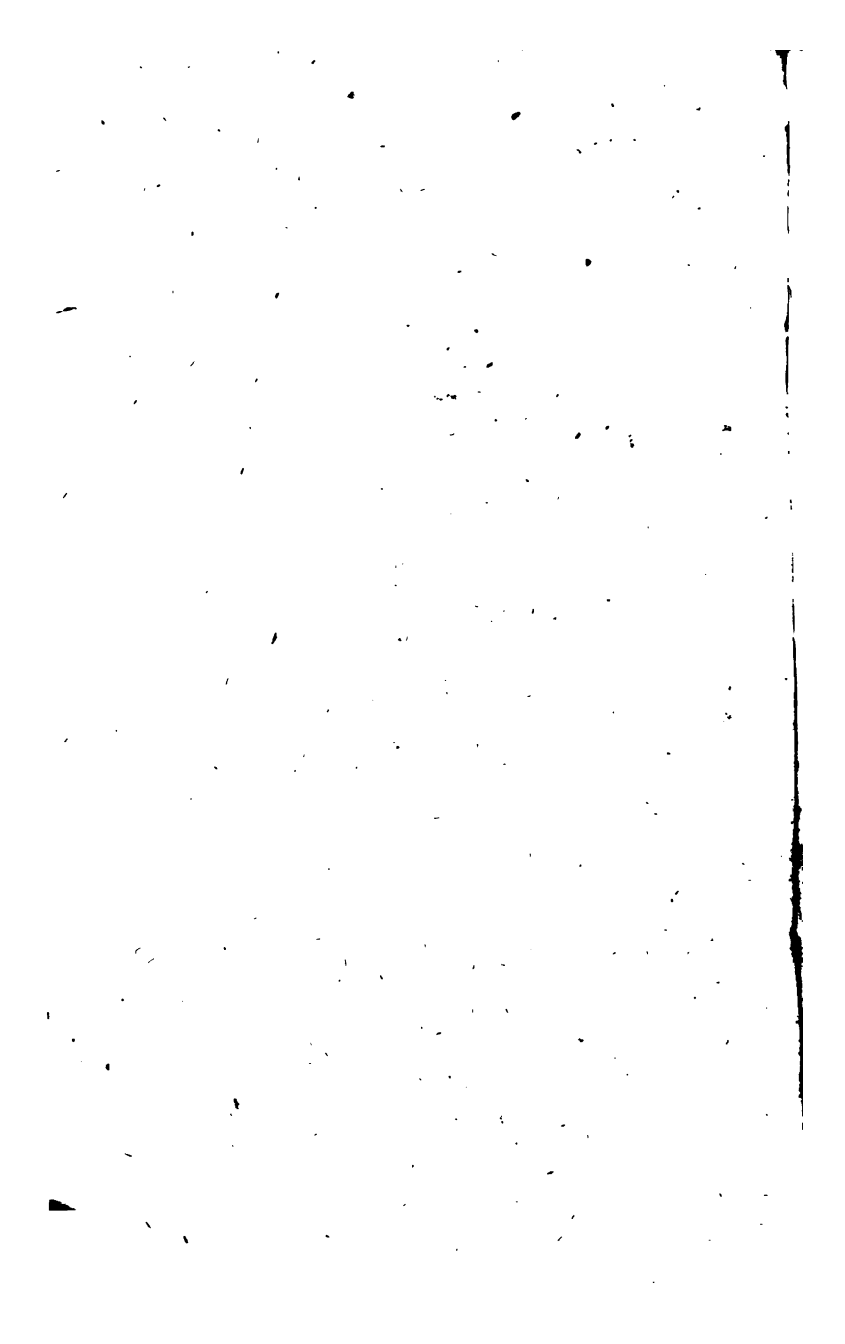
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E R R A T A.

- Page 72, line 12, note, for 380, read 360.
— 83, No. 161, for 1602, read 1662.
— 332, No. 525, for 1s. 1 $\frac{1}{2}$ d. read 1s. 1 $\frac{3}{4}$ d.

The New Zealanders, mentioned page 108, still continue cannibals; having, as our news-papers and magazines inform us, recently, and without the least provocation, killed and eaten Capt. Thompson, of the Boyd, with the whole of his ship's crew, a boy only excepted.



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