

THE  
MONTHLY REVIEW,

For APRIL, 1804.

---

ART. I. *Transactions of the American Philosophical Society, held at Philadelphia, for promoting useful Knowledge, Vol. V. 4to. pp. 350. Philadelphia. 1802. Imported by Johnson, London. Price 1l. 1s. Boards.*

THE productions of the transatlantic press do not reach us with much speed, nor with great regularity; nor can we always assert that they afford a degree of important information, or supply a fund of entertainment, which is calculated to render us very anxious for their arrival. All attempts, however, to advance in the pursuit of knowledge are intitled to indulgence; and if the scientific body, whose transactions now again claim our notice, do not uniformly gratify our expectations, they at least deserve our respectful attention.

Since we had written our analysis of the memoirs contained in this work, the public prints have announced that the Society and the philosophical world have lost one of its most active members, a colonist from the mother-country, to whose pen the present volume was much indebted; we mean Dr. Priestley: by whom the first six papers were communicated, and whose name will long live in the annals of literature and science. Of his theological and political principles and labours, we shall now say nothing; we are here speaking of him only as a philosopher; and in that character, every degree of justice should be rendered to his great merit, as well by those who differed from him as by those who agreed with him in opinion.

We now proceed to the memoirs.

*Experiments on the Transmission of Acids, and other Liquors in the Form of Vapour, over several Substances in a hot earthen Tube.* By Dr. Jos. Priestley.—These experiments were made at the same time with some others of a similar kind which have already been published, and may be regarded as illustrating the same subject.

*Experiments relating to the Change of Place in different Kinds of Air, through several interposing Substances.* By the Same.—

In some of his former publications, the Doctor mentioned that he had observed, in the course of his experiments, that the vapour of water or Mercury was capable of changing its place, with any kind of air, in vessels which, for most purposes, might be considered as air tight. Since that time, he has pursued the subject, and has discovered that 'what was done by air and water will be done by any two kinds of air, whether they have an affinity to one another or not.'

'Having procured (says he) earthen vessels of a very close texture, so as to be apparently impervious to air, containing about an ounce measure, I could fill them with any particular kind of air, and then place them inverted in a large glass jar containing a different kind of air. I then heated the small earthen vessels through the glass jar by means of a burning lens, and I never failed to find after the experiment, that the air within the earthen vessel was the same with that which had been on the outside of it, while that within it was mixed with that on the outside; but in some cases the mixture was a chemical one, forming a kind of air different from either of them, while at other times they were only diffused through one another.'

*Experiments relating to the Absorption of Air by Water.* By the Same.—By the mixture of atmospherical and nitrous air, the author attempted to ascertain the proportions of the component parts of the atmosphere. In consequence of the diminution of the whole volume of air subjected to the experiment going on, by long standing, much farther than at the first, Dr. P. was inclined to believe that there was a much greater proportion of dephlogisticated air or oxygen gas in the atmosphere, than has been supposed: but he afterward found that all kinds of air, without distinction, will wholly disappear when confined for a sufficient time under water. This, he thinks, is not to be explained merely by the absorption of the air by the water, but by some other cause which he has not been able to discover; for the diminution continued, though a large surface of the water was exposed to the common atmosphere, and therefore had an opportunity of being completely saturated with air: but he always observed that the dephlogisticated or oxygenous part of the atmospheric air submitted to the experiment was first absorbed.

*Miscellaneous Experiments relating to the Doctrine of Phlogiston.* By the Same.—It seems to be unnecessary to detail any of these experiments, because they do not appear to present any new evidence in support of the doctrines for which the author so steadily contends.

*Experiments on the Production of Air by the Freezing of Water.* By the Same.—From these experiments it appears that, when water, which has been freed from air as completely as possible,

is frozen, it evolves azotic gas or phlogisticated air on being melted, and this in a similar quantity on every repetition of the experiment. Dr. P. repeated the process of freezing nine times, without changing the water, and found the last portion of air procured in this way to be as great as the first. He accounts for this very curious phenomenon by supposing that water is in part convertible into phlogisticated air, and that this is one of the modes adopted by nature, for keeping up the equilibrium of this part of the atmosphere.

*Experiments on Air exposed to Heat in Metallic Tubes.* By the Same.—A mixture of hydrogen and oxygen gas, in earthen or metallic tubes, will not explode in a red heat, though this effect will always take place in tubes of glass where there is no metallic ingredient; and Dr. P. accounts for the circumstance with regard to earthen tubes, by the easy transmission of air through their pores. A similar result occurring in metallic tubes, or in such as have any metallic mixture, as those of flint-glass, he attributes to the inflammable air uniting with the metal, in whatever state it may be, and thus rendering the mixture incapable of explosion.

The facts mentioned by the Doctor in Art. 2nd; of the transmission of air through earthen tubes which were considered as air tight, he found to apply equally to those of copper, silver, and gold, but not to such as were of iron.—The present communication concludes with some experiments relating to phlogisticated air, from which the author deduces some inferences in support of the phlogistic theory.

*Some Account of the poisonous and injurious Honey of North America.* By Benjamin Smith Barton, M.D.—Several of the antient writers, particularly Xenophon and Diodorus Siculus, have mentioned instances of deleterious effects being produced by the use of honey, supposed to have been prepared from poisonous plants; and Dr. Barton has had occasion to observe something similar in the western parts of Pennsylvania, near the river Ohio. The following, as far as he was able to learn, are the symptoms produced by honey of this description:

‘ In the beginning a dimness of sight or vertigo, succeeded by a delirium, which is sometimes mild and pleasant, and sometimes ferocious; ebriety, pain in the stomach and intestines, convulsions, profuse perspiration, foaming at the mouth, vomiting, and purging; and, in a few instances, death. In some persons, a vomiting is the first effect of the poison. When this is the case, it is probable, that the persons suffer much less from the honey than when no vomiting is induced. Sometimes, the honey has been observed to produce a temporary palsy of the limbs; an effect which I have remarked

in animals that have eaten of one of those very vegetables from whose flowers the bees obtain a pernicious honey.

‘Death is very seldom the consequence of the eating of this kind of honey. The violent impression which it makes upon the stomach and intestines often induces an early vomiting or purging, which are both favourable to the speedy recovery of the sufferer. The fever which it excites is frequently relieved, in a short time, by the profuse perspiration, and perhaps by the foaming at the mouth.’

In some cases, intoxication was the only effect which followed the use of this species of honey. The signs pointed out by the hunters, as distinguishing the poisonous from the wholesome, seem to the author to be very fallacious, and he is not yet acquainted with any means of obviating the effects produced by the use of the former. The plants, from the flowers of which the bees are capable of extracting a deleterious honey, are principally the *Kalmia angustifolia* and *latifolia* of Linné; the *Kalmia hirsuta* of Walter; the *Andromeda marina*, and some other species of this genus; to which the author adds the *Rhododendron maximum*, or Pennsylvaniaian Laurel, the *Azalea nudiflora*, and the *Datura stramonium*.

*On the Ephoron Leukon, usually called the White Fly of Passaick River.* By Dr. Williamson.—These insects are of the order *Neuroptera*: but for the particular description of them, we must refer to the paper.

*Remarks on certain Articles found in an Indian Tumulus at Cincinnati, and now deposited in the Museum of the American Philosophical Society.* By George Turner.—These remarks are in answer to some observations on the same subject in a former volume, and would not particularly interest our readers.

*A Drawing and Description of the Clupea Tyrannus and Oniscus Prægustator.* By Benj. Henry Latrobe, F.A.P.S.—The *Oniscus Prægustator* is an insect which resembles nearly the *Oniscus Physodes* of Linné. It is called by fishermen *the Louse*, is about two inches long, and is always found holding itself firmly by its 14 legs to the palate of an animal to which Mr. Latrobe gives the name of *Clupea Tyrannus*. This last is in general called the *Bay-alewife* or *old wife*, and is about the size of a full grown herring.

‘It is with difficulty (says the author) that the insect can be separated, and perhaps never without injury to the jaws of the fish. The fishermen therefore consider the insect as essential to the life of the fish; for when it is taken out, and the fish is thrown again into the water, he is incapable of swimming, and soon dies. I endeavoured in numerous instances to preserve both the insect and the fish from injury, but was always obliged either to destroy the one, or to injure the

the

the other. I have sometimes succeeded in taking out the insect in a brisk and lively state. As soon as he was set free from my grasp, he immediately scrambled nimbly back into the mouth of the fish, and resumed his position. In every instance he was disgustingly corpulent, and unpleasant to handle; and it seemed, that whether he have obtained his post, by force, or by favor, whether he be a mere traveller, or a constant resident, or what else may be his business where he is found; he certainly has a *fat* place of it, and fares sumptuously every day.'

*Sur les Végétaux, les Polypes, et les Insectes.* By Dupont de Nemours.—This author considers a plant as 'a sort of animal deprived of eyes, ears, and legs, but by way of compensation furnished with a number of mouths, superior and inferior arms, hands, and reproductive organs.' He regards the functions which they exercise as very analagous to many belonging to the animal creation; and he is disposed to concede to them also various powers of intelligence which have been deemed peculiar to that kingdom. The points of controversy are not placed in a different form from that in which they have long stood, and no new facts are brought forwards on the subject.

*Memoir on the Analysis of Black Vomit.* By Dr. Isaac Cathrall.—The Black Vomit is of two kinds, the one consisting of a number of black flaky particles, resembling the grounds of coffee; the other, of a dark coloured inspissated mucus. The first was principally the subject of experiment, but the author was not able to procure a sufficient quantity, to ascertain the proportion of the different substances of which it was composed. The following is the result of his inquiry.—He found the fluid in which the flaky particles were suspended to contain a considerable proportion of water; a resinous and mucilaginous substance; a predominant acid, which is not the carbonic, phosphoric, nor sulphuric; muriate of soda; a brownish white coloured fluid, and a quantity of dark coloured oily matter; carbonaceous matter; and carbonic acid gas. The black flaky substance contained an acid, of the nature of which the author is ignorant, an unctuous animal substance resembling in some respects spermaceti, and a considerable quantity of iron.

From experiments made to ascertain the effects of the black vomit on the living system, Dr. Cathrall concludes first, that

'When applied to the most sensible parts of the body, it produced little or no effect.

'Secondly, It appears that large quantities of this fluid, may pass through the stomach and bowels of quadrupeds and other animals, without apparently disturbing digestion, or affecting their health.

This fact incontestibly proves the inactivity of this fluid ; and renders it probable, that the speedy death which ensues, after this discharge in yellow-fever, is not from the destructive effects of this matter on the stomach and bowels ; but, most likely from the great degree of direct or indirect debility, which had been previously induced, on which the black vomit is sometimes an attendant, and strongly expresses the great danger to be apprehended from the enervated state of the system.

‘ Lastly, Some of the experiments tend in some measure to prove, that an atmosphere highly impregnated with the odour of black vomit recently obtained, would not produce fever, apparently under the most favourable circumstances.’

The author considers the black vomit as an altered secretion from the liver, which is deposited in the gall bladder, and is forced by the action of vomiting into the stomach, where it receives the addition of a yellow coloured fluid which is almost always ejected with it.

*Observations on the Soda, Magnesia, and Lime contained in the Water of the Ocean, shewing that they operate advantageously there, by neutralizing Acids, and among others the Septic Acid, and that Sea-water may be rendered fit for washing Clothes without the Aid of Soap.* By Sam. L. Mitchell, of New-York.—The general inferences of the author are thus stated :

‘ 1. Alkaline substances, such as magnesia and more powerfully lime and soda, are plentifully distributed through the ocean, to keep it from becoming foul, unhealthy and uninhabitable, which doubtless would be the case if the sulphuric, septic and muriatic acids abounding in it were not neutralized. 2. Where either of these acids is but imperfectly saturated, as happens when they are united to magnesia and lime, they decompose soap, let loose its grease, and become unfit for washing by aid of that material. 3. If soda or barilla is added to ocean water in sufficient quantity and the water lixiviated or alkalized, the earths will of course be precipitated and the acids neutralized. 4. In this state, dirty linen may be cleansed in it ; and men at sea be thus enabled to have their clothes washed without the aid either of soap or of *fresh* water. 5. For this purpose, a quantity of barilla or soda should always be provided as an article of the ship’s stores, and issued to the men on washing days. 6. Thus by the operation of this alkaline salt, a great proportion of the nastiness and infection bred in the clothes, bedding and births of persons at sea might be prevented, and the crews and passengers so far forth preserved from fevers and dysenteries. 7. No more room would be occupied by water casks in the holds of vessels, than at present. 8. The small quantity of magnesia and lime adhering to clothes washed in this way, is an advantage over and above what takes place in using fresh water. And 9. A broad and noble view is opened of the economy of Providence in distributing alkaline salts and earths, so liberally throughout the terraqueous globe.’

*A Description of a newly invented Globe Time-Piece.* By the Rev. Burgiss Allison, A. M.

*A Description of the Pendant Planetarium.* By the Same.—These short papers are illustrated by plates, without which we cannot give our readers an adequate idea of the author's inventions.

*Of the Use of the Thermometer in Navigation.* By Wm. Strickland.—This paper certainly merits attention. From a variety of observations, Mr. Strickland found that the change in the thermometer always indicated an approach to land. As the account is short, we give it in the writer's own words:

' On the 22d of August late in the evening the water fell in temperature four degrees to 64; on the next day at noon having fallen to 62 and suspecting that we might be in soundings, though no alteration had taken place in the colour of the water, I induced the captain to sound, but no bottom was found at 140 fathom; on the 24th it will appear by the chart to have fallen to 58, and on the 25th to 56, about which time we were undoubtedly on Jaquet, or False bank, and on the 26th having fallen to 51 at 8 A. M. and assumed a green cast, I was desirous of sounding again, but in consequence of the ill success attending our former attempt, and not yet placing any reliance on the thermometer, the captain was unwilling to lose time in sounding, supposing that we were only approaching Jaquet or False bank; but the next day having spoke a banker, he informed us that we were on the grand bank, and that Cape Race bore W. N.W. 150 miles. Upon sounding at noon we struck the ground at 37 fathoms. Here let me remark, that our reckoning as shewn on the chart has been well kept, and that the thermometer has with great precision indicated our situation; on the 21st at noon in a supposed branch of the gulf stream 72°.—22d, approaching Jaquet bank and at no great distance from it, 68°.—23d, still nearer 62°.—24th on the edge of the bank 58°.—25th, on Jaquet bank 56°.—26th, on the grand bank 52°—thus at this season of the year is there a difference of 20 degrees of the thermometer between the water on the bank, and in the same latitude in the ocean, not far to the east of it.

' Our captain, a sensible and observing man, as well as very experienced mariner, struck with the regular gradation of the thermometer on the approach of the bank, and convinced of its having pointed it out long before he had suspected his arrival upon it, from this time paid much attention to the thermometer. He found as I had foretold that it would equally shew by the rise when we had quitted the bank, and observed that as it would still more accurately define the limits of the gulf-stream, as it was hotter than any other part of the ocean, he might with great advantage make his passage to New-York by following the northern eddy of the stream. This eddy he knew to exist, but was unacquainted with the limits of it, and knew not how to ascertain them, except by the thermometer. We pursued this eddy pretty accurately, having made good the latitude of New-York in long. 69 in about nine days from quitting the banks, and every

day performed nearly equal and good days works. In this course from Newfoundland the thermometer indicated every where the approach to danger; on the 5th of September, the vicinity of Sable Island banks caused a fall of  $7^{\circ}$ ; and on the 7th, a bank not marked on any chart I have seen caused a fall of  $11^{\circ}$  degrees. Upon sounding on this bank the ground was struck in 55 fathom, fine white sand, with some specks of red and black. Captain Allyn was so much pleased with the accuracy of the thermometer, and with the security in which he had sailed for some time in consequence of it, and so clearly perceived the advantage to be derived from it in many instances, that he declared he would never more go to sea without one.

'The track of the Fair-American appears to have laid very near to Jaquet island, which in governor Pownall's chart is marked as very doubtful; a good look out for it was kept for several days, but with no effect; this may so far tend to confirm the suspicion of its non-existence.

'The journal from America to England, does little more than confirm the previous observations made in this track; the thermometer fell no less than 20 degrees on passing to the south-east of Newfoundland, and rose again 9 degrees in the same longitudes, where in our outward bound voyage, we supposed ourselves to be crossing a branch of the gulf stream. The fall from hence of the thermometer, as the coast of Europe is approached, is very remarkable and uniform.'

In the beginning of this paper, Mr. Strickland states certain facts and reasonings, from which it is probable that a branch of the gulf stream takes a northerly or north-easterly direction, flowing to the east of the banks of Newfoundland. This current, he thinks, might be with sufficient accuracy ascertained by means of the thermometer; and the benefit that would result to navigation from the knowledge of such a current is evident.

*Description of a Stopper for the Openings by which the Sewers of Cities receive the Water of their Drains.* By Mr. John Fraser, of Chelsea, London.—A very short description of a simple instrument, useful in streets not paved and full of sand.

*Astronomical and Thermometrical Observations, made at the Confluence of the Mississippi, and Ohio Rivers.* By Andrew Ellicott.

*Astronomical and Thermometrical Observations, made on the Boundary between the United States and his Catholic Majesty.* By the Same.—The account of these observations occupies a considerable number of pages: they are probably very useful, and as such ought to be recorded: but to almost all readers, they are void of interest, and to us they appear a very unfit subject for critical remark and examination.

*Observations on the Figure of the Earth.* By Joseph Clay, M. A. P. S.—This paper we should consider as altogether unnecessary, if the Americans possess our books of science. St.

Pierre

Pierre having unwarily asserted that the earth is a prolate spheroid, Mr. Clay seriously and most loyally undertakes to prove him wrong. In part of the proof, it is necessary to find the fluent of  $x \sqrt{\frac{a^2 - d^2 x^2}{a^2 - x^2}}$ , and the author's method does not impress us with a favourable opinion of his mathematical prowess. St. Pierre shewed his ignorance in mathematics, and Mr. Clay does not exhibit any great skill. We wish that the first had suppressed his hardy assertions, and the latter his uninteresting proofs.

*Description of some Improvements in the common Fire-Place, accompanied with Models, offered to the Consideration of the American Philosophical Society.* By C. W. Peale, and his Son Raphaelle. — Common fire-places are liable to smoke, and we fear that ours is a common fire place: but the fire places of C. W. Peale and his son Raphaelle are not liable to smoke. So they say, and we suppose that we ought to believe them.

*A Memoir on Animal Cotton, or the Insect Fly-Carrier.* By M. Baudry des Lozieres. — This writer, of whose curious *Voyages to Louisiana* we have already given accounts \*, here presents a pompous description of a worm which feeds on the Indigo and Cassada plants, and which is made to produce a species of cotton by the ichneumon flies depositing their eggs on its body. M. des Lozieres maintains that a very considerable portion of this cotton might be collected, and that it is preferable to the vegetable cotton in all respects, particularly in not possessing its irritating qualities when applied to wounds.

*Note concerning a Vegetable found under Ground.* In a Letter from Col. Bull. — This paper is introduced by Dr. Barton, who states that he sees 'no good reason to doubt the accuracy of the observation.' The circumstances are thus related:

"I take the pleasure of giving you an account of a singular blossom, which I discovered last May, in digging of a mill-race, on Opeckon creek, through a rich bottom of low ground, covered, in general, with well grown large timber, of various kinds, particularly oak, poplar, and walnut, several of which trees are from three to four feet through, standing on the ground through which the race was dug. The curiosity is this, that between five and six feet under ground, chiefly a loomy, solid clay, one of the diggers discovered a blossom, not in full bloom, nearly of the colour of the lilac, which struck his attention. He called me to see it, not knowing what it could be. Upon viewing it, I recollected the form, and told the diggers it was the same kind of blue flower, which had grown upon the surface of the ground adjacent, and was then faded. In order to prove it, I

\* See Rev. N. S. Vols. xl. p. 539. and xlii. p. 479.

desired one of the men to dig up the root of the one under ground, and the one upon the surface, which, upon examination, proved to be the very same kind. The body of earth where the plant was found must have been formed perhaps some centuries, by reason of the uncommon size of the timber which it contained, and from which the most heavy part of the mill-timber was procured."

The *Appendix* contains two short papers. 1. *Account of a Method of preventing the premature Decay of Peach Trees.* By John Ellis, of New Jersey.—Mr. E. attributes the decay of peach trees to a worm which originates from a large fly resembling the common wasp, which perforates the bark at the surface of the earth, and deposits an egg in the sappy part of it; and his mode of cure is this:

' In the spring, when the blossoms are out, clear away the dirt so as to expose the root of the tree, to the depth of three inches; surround the tree with straw about three feet long applied lengthwise, so that it may have a covering one inch thick, which extends to the bottom of the hole, the but ends of the straw resting upon the ground at the bottom. Bind this straw round the tree with three bands, one near the top, one at the middle, and the third at the surface of the earth, then fill up the hole at the root, with earth, and press it closely round the straw. When the white frosts appear, the straw should be removed and the tree should remain uncovered until the blossoms put out in the spring.

' By this process the fly is prevented from depositing its egg within three feet of the root, and although it may place the egg above that distance, the worm travels so slow that it cannot reach the ground before frost, and therefore is killed before it is able to injure the tree.'

Mr. Ellis asserts the efficacy of this plan on the ground of numerous experiments.

*Description of a Method of cultivating Peach Trees, with a View to prevent their premature Decay; confirmed by the Experience of 45 Years in Delaware State, and the Western Parts of Pennsylvania.* By Thomas Coulter, Esq. of Bedford-County, Pennsylvania.—These instructions relate to the cultivation of peach trees on a large scale, and consist principally in the succeeding remarks:

' The death of young peach trees is principally owing to planting, transplanting, and pruning *the same stock*, which occasions it to be open and tender, with a rough bark, in consequence of which insects lodge and breed in it, and birds search after them, whereby wounds are made, the gum exudes, and in a few years the tree is useless. To prevent this, transplant your trees as young as possible, if in the kernel it will be best, as there will then be no check of growth. Plant them sixteen feet apart. Plow and harrow between them, for two years, without regard to wounding them, but avoid tearing them

up by the roots. In the month of March or April, in the third year after transplanting, cut them all off by the ground, plow and harrow among them as before, but with great care to avoid wounding or tearing them. Suffer all the sprouts or scions to grow, even if they should amount to half a dozen or more, they become bearing trees almost instantaneously on account of the strength of the root. Allow no animals but hogs to enter your orchard, for fear of their wounding the shoots, as a substance drains away through the least wound, which is essential to the health of the tree and the good quality of the fruit.<sup>2</sup>

Some other directions are given, for which we cannot make room. The author is not a friend to manuring the soil for peach trees, and prefers planting them on high ground, and on the north side of hills, in order to retard vegetation until the season is securely advanced.

---

ART. II. *The Elements of Natural or Experimental Philosophy.* By Tiberius Cavallo, F.R.S. &c. Illustrated with Copper Plates. 4 Vols. 8vo. 2l. 2s. Boards. Cadell and Davies.

**T**O include, within the limits of a few octavo volumes, all that is useful and curious in natural philosophy; or to comprehend, in ten or a dozen Encyclopædean quartos, all that is known in art, science, and literature; is one of the inventions of modern times. Such schemes have undoubtedly diffused much knowledge, but it is seldom that they are ably executed: since no individual can possess that accurate and extensive information which they demand, and various impediments too generally prevent the co-operation of the most eminent proficient in the several arts and sciences. Without being disarmed of our distrust of such projects, we admit that we have derived much satisfaction from the very able manner in which the performance before us is executed. The range taken by the author is a wide one, but he rarely seems out of his element; and his work supplies more varied and correct instruction than is contained in any similar publication with which we are acquainted. It embraces the subjects of Mechanics, Hydrostatics, Optics, Astronomy, Chemistry, Electricity, Magnetism, Acrostation, Meteors, &c. and although much of the matter be old to us, and may be found in other books, yet we think it proper to consider and concisely to examine it under each head.

In the preface, Mr. C. explains his plan, modestly stating his labours, and the object which he had in view; and we find that he does not pretend to sound all the depths of philosophy,

ART. VII. *A Plea for Religion and the Sacred Writings*: addressed to the Disciples of Thomas Paine, and wavering Christians of every Persuasion. With an Appendix, containing the Author's Determination to have relinquished his Charge in the Established Church, and the Reasons on which that Determination was founded. By the Rev. David Simpson, M.A. (of Macclesfield). 8vo. pp. 380. 6s. 6d. Boards. Mawman.

IT appears to have been the intention of the deceased author of this work, which was completely finished by himself and on the point of being given to the world in the year 1799, to have immediately followed its publication by the resignation of his living in the Established Church: but death intervened, and prevented the execution of both these purposes. His son, however, impelled by a sense of duty, undertakes in one respect to fulfil his deceased parent's intention; persuaded that this posthumous volume will reflect credit on his father's memory, and contribute to the benefit of mankind. It will no doubt prove the late Mr. Simpson to have been truly conscientious, to have been actuated by those serious principles which every clergyman ought to feel, to have been piously devoted to the discharge of his sacred functions, and to have been warmed by a holy ardour for religious truth: but his zeal betrays him into vehemence sometimes approaching indecorum; and, with a good heart and with motives highly commendable, he occasionally loses sight of that discretion and calmness which a theological writer ought to possess.

How far, on a full view of the case, and taking into consideration all its bearings, Mr. S. was right in his projected resignation, we presume not to determine: but with all possible respect for his memory as a good and well-meaning man, we venture to remark that he is too severe on his brethren the clergy as a body, and seems to forget that reproof must be mild and temperate in order to have due effect. Irregularities and abuses unquestionably exist in the established system, of which it is desirable that some reformation should take place; and we are aware that many of our appointed instructors themselves require admonition: but when a clergyman assumes the office of *Reprover of the Brethren*, he should be careful that his ardor does not degenerate into passion and vulgarity. Mr. Simpson has not been sufficiently guarded in this respect; and his clerical brethren will not be disposed to listen with much complacency to a long lecture interlarded with such pieces of oratory as the following:—'Divine Providence will ere long *kick us off our perches*, unless we turn over a new leaf.'—'What a horrible hell shall we *parsons* have when we leave our present beds of down?' Could he think of conciliating the rich clergy by intimating

FOTHERGILL, were *believers*: that the *Lawyers*, HALE, and METCALNE, and FORBES, and HAILES, and PRATT, and BLACKSTONE, and JONES, were *believers*: that the *Philosophers*, PASCAL, and GROTIUS, and RAY, and COTES, and FERGUSON, and ADAMS, and LOCKE, and EULER, and NEWTON, were *believers*. Where is the great misfortune, then, to the interests of religion, if *lukewarm Christians* of every persuasion betray the cause they pretend to espouse; and if *Unbelievers* of every description imagine a vain thing against the REDEEMER of mankind, and the *Book* which he hath caused to be written for our instruction. Nothing less than demonstration on the side of *Infidelity* should induce any man to resist the momentum that these venerable names give in favour of the *Gospel*. Many of them were the ornaments of human nature, whether we consider the wide range of their abilities, the great extent of their learning and knowledge, or the piety, integrity, and beneficence of their lives. These eminent characters, BACON, NEWTON, LOCKE, BOYLE, DITTON, ADDISON, HARTLEY, LITTLETON, WOODWARD, PRINGLE, HALLER, JONES, BOERHAAVE, MILTON, GROTIUS, BARRINGTON, and EULER, in particular firmly adhered to the belief of *Christianity*, after the most diligent and exact researches into the life of its FOUNDER, the authenticity of its records, the completion of the prophecies, the sublimity of its doctrines, the purity of its precepts, and the arguments of its adversaries. Here, you will remark, was no *priest-craft*. These were all men of independent principles, and the most liberal and enlarged minds. They investigated the pretensions of the *Gospel* to the bottom; they were not only satisfied with the justice of its claims, but they gloried in it as a most benevolent and god-like scheme; and they all endeavoured, if not by their oral discourses, yet by their immortal writings, to recommend it to the general reception of mankind. It was their study in life, their solace in death.'

All the persons above enumerated are not perhaps intitled to a place in a list of believers. The author, as we find by a note, was sensible of his error respecting Gray.

We cannot attend to all the various matter introduced into this volume, especially in the notes; nor regularly follow the writer through the several parts of his exhortation, which he has endeavoured to enliven by frequent quotations from the poets: but we shall extract the concluding period, as containing a picture of the religious state of Mr. Simpson's mind:

'As to myself, I am thoroughly satisfied with that GOD, that REDEEMER, and that SANCTIFIER which the *Christian Scriptures* hold out to the view and acceptance of mankind. I am perfectly pleased with those *Scriptures*, and with all the divine dispensations therein recorded. Our GOD *hath done, is doing, and will do all things well*. It is altogether fit he should govern his own world, and bow the rebellious nations to his sway. The present degenerate state of *Christendom* is too disgraceful to his government, to be permitted to continue beyond  
the

the predicted period. He will, therefore, arise and plead his own cause, and all the wickedness of men, and the convulsions and distress of nations, shall wind up to his eternal credit. *The LORD is King be the people never so impatient; he sitteth between the Cherubim, be the earth never so unquiet.* His Gospel is no other than the plan devised by infinite wisdom for the melioration of mankind. The immortal seed is sown; the principle of life has vegetated; the little leaven is diffusing itself far and wide. Much has been done; much is doing; much shall be done. Millions of reasonable creatures have already found eternal rest in consequence of the REDEEMER'S dying love: multitudes of souls at this moment are happy in their own bosoms under a sense of the divine favour: and innumerable myriads of men shall arise, believing in his name, trusting in his mediation, and rejoicing in his salvation, maugre all the opposition of fallen *Christians* and apostate spirits. Wise and gracious is the DIVINE BEING in all his ways, and I rejoice that he is the GOVERNOR among the people. To his service I avowedly devote my feeble powers, as long as he shall vouchsafe me the exercise of them; nor will I cease to speak the honours of his MAJESTY, while the breath continues to actuate this mortal frame.'

A great part of this volume is composed in the style of a fast-sermon, the burden of which is *Reform or Perish.*

ART. VIII. *Materials for Thinking.* By W. Burdon. A.M.  
8vo. pp. 413. 6s. Boards. Ostell. 1803.

A SPIRIT of investigation, and a love of truth, candour, and liberality of sentiment, are high-sounding pretensions; and it is pleasing even to see professions of them made, while it is doubly grateful to witness the genuine display of them. They are not always, however, found to adorn those who make public boasts of them, and who are loudest in their praise; and be the declarations of an author what they may, if his effusions betray an irritable frame, a censorious temper, and a cynical turn of mind, we cannot allow his claims to these attractive and valuable qualities. It is very remote from our inclination to deal harshly by those who make assurances of being zealous in the cause of mankind, and who tell us that the great object of all their exertions is to advance truth, to serve virtue, to animate and nurture patriotism: for such is the paucity of writers of this description, that the members of so honourable a band are intitled to some courtesy from critics: but if persons who are themselves not profound set up as the severe censors of great names in the republic of letters; if those who give no proofs of wisdom, and who are defective in judgment, inveigh against established institutions; if men of confined information and contracted views rudely attack objects