











# BEAUTIES

36

### NATURE DELINEATED;

#### OR,

### PHILOSOPHICAL

### AND PIOUS CONTEMPLATIONS

ON THE

## WORKS OF NATURE,

AND THE

### SEASONS OF THE YEAR.

Scleeted from STURM'S REFLECTIONS, By the Rev. THADDEUS M. HARRIS.

- " Whom Nature's works can charm, with God himfelf
- " Hold converse ; grow familiar day by day
- " With his conceptions, act upon his plan,
- " And form to his the relifh of their fouls."

AKENSIDE.

Second Edition. Published agreeably to Act of Congress.

Charleflown : PRINTED AND SOLD BY SAMUELETHERIDGE. 1801.



PREFACE.

 $T_{\rm HE}$  felection here offered to the public is made from STURM's " Reflections, on the works of GOD and of his Providence, throughout all nature, for every day in the Year." Copious testimonials in favor of that work might have been extracted from foreign Journals and Reviews ; but it will be fufficient to obferve that its merit, and the high opinion which has been entertained of it, are fufficiently evinced in the numerous and large editions through which it has paffed in the original German and in most of the languages of Europe. Though the English translation is inaccurate, inelegant, and frequently ungrammatical, it has been well received and frequently reprinted.\* So interefting, entertaining, and instructive was the matter and the fentiment, that the manner and the ftyle was

\* Translated into English from the German, by a LADY, in 3 volumes, 12mo.

#### PREFACE.

but little regarded.\* The editor was employed to revife those volumes, and make fuch corrections in the ftyle and natural philosophy (for the author was not fully acquainted with the modern discoveries and improvements) as would recommend an impreffion of the work in America. But he found fo much that might be corrected, and fo much that might be omitted, that he thought it advifable to relinquifh the idea of retaining the whole feries of numbers, and to give the work itfelf a new form. Accordingly he has arranged the fubjects in a natural and perspicuous order, calculated to carry forward the thoughts in an inftructive and pleafing train. He has frequently united and compreffed feveral of the numbers into one; omitting, abridging, and altering paragraphs as he thought beft. In fhort, the most fcattered materials he has endeavored to difpofe into fomething like order and fystem. Of this the table of contents will give fome idea. The first part is intended to exhibit diffinct views of the Works of Nature ; the fecond is accommodated. principally, to the Seafons of the Year.

\* Since, a new translation, abridged, has been published by HEMET, 1798, in a 12mo. vol. of 448 pages. And a little volume has appeared, called "The BEAUTIES of STURM, by ELIZA ANDREWS." These the Editor has lately seen: but they could neither affist nor supercede the prefent work. Those articles, which in the table of contents are diftinguished by an afterism, are principally or entirely compiled from other fources : a liberty not freely indulged in any of the reft.

At the recommendation of a particular friend, and in compliance with the tafte of the day, *mot*tos have been felected, as heads to the different chapters. These are chiefly taken from the English poets; but fome are original. Perfons of more retentive memories might have recollected better ones; but it is hoped that these will not be thought altogether unappropriate.

To every reflecting, ferious, perfon, this little volume will prove a valuable acquifition. It is eminently calculated to give enlarged conceptions of the works of Creation ; and, by an eafy tranfition, to lead the thoughts " from Nature up to Nature's Gop." It is particularly ufeful to young perfons, whom it will furnifh with a juft and rational knowledge of the various phenomena of nature, and the admirable economy of the fyftem to which they belong ; affifting them in the wifeft reflections upon every thing around them, and infpiring them with the most exalted fentiments of the SUTREME BEING—all whose works proclaim and praife him.

"Who can this field of miracles furvey,

" And not with Galen all in rapture fay,

" Behold a Gon ! adore him and obey !"

#### ADVERTISEMENT.

### Advertisement to this second Edition.

THE rapid fale of a large edition of this interefting work, and the continued demand for it, making another imprefilion neceffary, the Editor has endeavored to render it ftill more worthy of the public favor, by a careful revision of the whole, by refcinding fome fentences that had been undefignedly repeated, and by adding feveral important articles. For the liberty he has taken of inferting new matter, with extracts from other authors, he affigns this reason, that he thought it neceffary to fupply the defects of the original work and complete the plan of this.

It is thought expedient to inform the public, that, it is prefumed that this volume is now as perfect as would comport with profeffing it to be felected from STURM; and that therefore all future editions will be without farther alteration or enlargement.

### TABLE OF CONTENTS.

### PART I.

### ON THE WORKS OF NATURE.

	and the second s	Pa	ge.
Ī.	AN invitation to contemplate God	in	
	the works of nature		II
2.	Nature difplayed		14
3.	Magnificence of God in his works		19
4.	Pleasures which the contemplation	of	
	nature procures		25
5.	The enjoyments which we find	in	-
	nature		27
6.	Nature is a lesson for the heart		31
7.	Meditation on the works of nature		33
8.	Hymn of thankfgiving for the works	of	
	the Creator		35
9.	God's univerfal care of his creatures		37
0.	Daily proofs of God's goodnefs		41
.11	Reafons for confidence in God		43

CONTENTS.

		Page.
12.	Reafons for Content	46
13.	Reflections on the animal creation	48
14.	The fpherical form of the earth	52
15.	Utility of mountains	55
16.	Utility of rain	58
17.	Utility of rivers	62
18.	*On the ocean	65
19.	*On the tides	70
20.	Earthquakes	76
21.	Sunrife	80
22.	Rainbow	82
23.	*Ufe and neceffity of air	84
24.	Reflections on woods and forefts	87
25.	Contemplations on the ftarry heavens	91
26.	Sentiments which the contemplation	of
	the fky excites	,96
27.	The blue color of the fky	98
28.	*Sun	100
29.	Planetary fystem	103
30.	Moon	IIO
31.	Eclipfes of the fun and moon	114
32.	*Comets	116
33.	Milkyway	127
34.	Plurality of worlds	129
35.	Difcoveries made by the microfcope	132
36.	Several uses of fire	136
37.	Mysteries of nature	139

### VIII

CONTENTS.

ir

### PART II.

### ON THE SEASONS OF THE YEAR.

		F	age.
1.	MEDITATION	on the first day of th	e
	year		143
2.	Equal distribution	of the feafons	146
3.	Changes of the feat	lons	148
4.	Complaints of man	kind relative to certain	n
	inconveniences	in the laws of nature	151

### SPRING.

<ul> <li>6. Reflections on the Spring 157</li> <li>7. Ufe of vegetables 167</li> <li>8. On the bloffoms of trees 169</li> <li>9. Reflections on a flower garden 172</li> <li>10. The beauty and utility of the meadows and fields 175</li> </ul>			
<ol> <li>7. Ufe of vegetables 167</li> <li>8. On the bloffoms of trees 169</li> <li>9. Reflections on a flower garden 172</li> <li>10. The beauty and utility of the meadows and fields 175</li> </ol>	5.	HOPE of SPRING	155
<ol> <li>7. Ufe of vegetables 167</li> <li>8. On the bloffoms of trees 169</li> <li>9. Reflections on a flower garden 172</li> <li>10. The beauty and utility of the meadows and fields 175</li> </ol>	6.	Reflections on the Spring	157
<ul> <li>9. Reflections on a flower garden 172</li> <li>10. The beauty and utility of the meadows and fields 175</li> </ul>	7.	Use of vegetables	167
10. The beauty and utility of the meadows and fields 175	8.	On the bloffoms of trees	169
and fields 175	9:	Reflections on a flower garden	172
and fields 175	10.	The beauty and utility of the meadow	's
	IÌ.	Contemplations on a meadow	179

CONTENTS.

X

### SUMMER.

12. REFLECTIONS ON THE SUMMER 18
12. REFLICTIOND ON THE DOMINILIE TO
13. On the dew 195
14. End of Summer 197
15. Reflections on the Summer which has
juft paft 198
16. A remembrance of the bleffings which
Spring and Summer afford us 201

### AUTUMN.

17.	REFLECTIONS ON THE AUTUMN	203
18.	Harvest Hymn	212

### WINTER.

19.	REFLECTIONS ON THE WINTER	2 214
20.	Duty of collecting our thoughts	in
	Winter	225
21.	HYMN OF PRAISE TO GOD	228
22.	Rapidity with which life paffes away	230
23.	Instability of earthly things	233
	Clofe of the Year	236

### PART I.

ON THE

### WORKS OF NATURE.

AN INVITATION TO CONTEMPLATE GOD IN THE WORKS OF NATURE.

- " Begin my foul the exalted lay !
- " Let each enraptur'd thought obey,
  - " " And praife the ALMIGHTY's name.
- " Lo ! Heaven, and earth, and feas, and fkies,
- " In one melodious concert rife,
- " To fwell the infpiring theme !"

OGILVIE,

O YE who adore with me the Lord, by whom the heavens and the earth were made, come and reflect on his works ! Behold the wonders that he has done ! Acknowledge and have a lively fenfe of his mercies ! Of all the knowledge that we can acquire this is the most important, the most easy and agreeable. We could difpense with many fciences which we take fuch pains to learn; but the knowledge of God and his works is absolutely.

neceffary, if we wish to fulfil the end of our creation, and by that mean fecure our happinefs here and hereafter. We do well undoubtedly to feek to know God, fuch as he has revealed himfelf to us in his divine word ; but we shall not receive that revelation with an entire conviction of heart, if we do not join to it this other revelation, by which he has made himfelf manifest to us throughout all nature, as our Lord, our Father, and Benefactor. It is the best preparation to underftand, and to receive as we ought the gofpel of Chrift, for this reafon, that, in teaching his difciples the truth of religion, the divine Redeemer often fpoke of the works of nature, and made ufe of the objects which the physical and moral world afford, to lead his hearers to reflections on fpiritual and heavenly things. In general it is a noble employment, and well worthy of man, to ftudy conftantly the book of nature ; to learn in it the truths which may remind us of the immenfe greatnefs of God, and our own littlenefs; of his bleffings, and the obligations which they impose upon us. It is shameful for man to be inattentive to the wonders which furround him on all fides, and to be as infenfible to them as the brutes are. What employment can be more pleafing to the human mind than to contemplate in the heavens, the earth, the waters, the night, and day, in a word, throughout all nature, the

12

wifdom, power, and goodnefs of our Creator and Preferver ! What can be more delightful than to difcover in the whole creation, in all the natural world, in every thing which we fee, traces of the providence and tender mercies of the Father of all beings ! There are no amufements, no worldly joys, of which we are not foon tired ; but thefe are pleafures ever new.

Let us adore God in his wonderful works. Let us endeavor more and more to be acquainted with him. Let us reflect on his greatnefs, admire his power, celebrate his wifdom, and rejoice in his goodnefs, difplayed in every feafon of the year, and diffufed through every part of creation. This employment will make us not only happy but virtuous; for if we have God and his works continually in our fight, with what love and veneration fhall we not be penetrated ! with what confidence thall we not refign ourfelves to him ! with what zeal and tranfport thall we not fing his praife !

#### NATURE DISPLAYED.

- " To me be NATURE's volume broad difplay'd;
- " And to peruse its all instructive page,
- " Or haply catching infpiration thence,
- " Some eafy paffage, raptur'd, to tranflate,
- " My fole delight."

THOMPSON.

HAPPY the man, whofe genius, rifing above the mere gratification of his fenfes, prompts him to inquire, with the affiftance of reason, into the true caufe of things, and to pierce through the dark veil which conceals from mortals the mysteries of nature ! How infenfible are mankind ! They ftop to obferve the courfe of a river. Supinely lying on the green turf, they contemplate the clear ftream murmuring as it flows. The coolnefs of the water, the enamelled field, the verdure of its banks; every thing enchants their fight. But few know how to enjoy a ftill greater pleafure, that of tracing the fource itfelf of thefe waters, the inexhauftible refervoir whence they proceed. Thus, we generally look only on the outfide of things. But let us go deeper; let us dare to open a path into the receffes of

nature. How noble is it to reflect on the principles of things, to contemplate their effence ! It is to this that the wife man foars; all the reft is but the trifling amufement of the vulgar. It would be totally impoffible to reckon all the. bleffings of nature, beftowed upon us; but let us endeavor to comprehend in fome degree, how much we owe to our fovereign Benefactor. For this purpofe, let us look into the places of our feveral enjoyments, and fee what productions of the earth are there prefented to us. The flowers, which appear but a mere amufement, are lovely ornaments to our retreats, and by the fweets they exhale, and the beautiful colors with which they are adorned, charm and delight us. The orchards and kitchen gardens are not fo pleafing to the eye, but their utility compenfates for this: they produce fucceffions of excellent provisions for our tables during the whole year, much more wholefome than those invented by art to excite, or (more properly fpeaking) to corrupt, our tafte.

Let us go a little farther ; let us quit the confinement of towns and villages, to enjoy the fpacious fields where the industry of man produces that ftaff of life, that bread which fupports the whole human fpecies. The earth faithfully rewards the farmer's toil, and returns with incred-

B 2,

16

ible intereft all that is laid out upon it. Unimpaired by age, it conftantly refumes the charms of fpring, and the luxuriance of fummer; and, after having produced the moft plentiful harveft, a winter's reft entirely repairs its loss.

Let us now enter into the woods. The light of day obfcured by the thick foliage of the ftately trees, the pleafing coolnefs, the ftill filence that reigns through all, combine to give them a ftriking air of folemnity and grandeur. What human induftry would be fufficient to plant, to water, and to take care of thofe trees, fo indifpenfible to us : for without them, where fhould we find fuel to prepare our food, and to protect us from perifhing with cold ! God alone creates and preferves thofe forefts, which are in fo many ways of ineftimable value to us.

Let us now glance over our meadows and pafture. We behold them enamelled with flowers, and full of all forts of herbs, which not only ferve as pafture for animals, but many of them are delightful to us, and furnifh us with excellent medicines.

How beautiful an object, how great an ornament to nature, is a river ! Whether we ftop to reflect upon its motion and utility, or its origin and fupplies. The beauty of its courfe charms

us, the multitude of bleffings it affords fills us with gratitude, and the obfcurity of its fource raifes our admiration. It is at first but a little stream trickling down a hill, and which the fmalleft pebble is enough to divert from its courfe : But foon, the overflowing of lakes, the melting of fnow, the falling of floods, enlarge it. It makes itfelf a bed, and flows copioufly into it : it enriches the fifherman's hut, and the laborer's dwelling; and, after having been the ornament and delight of the country, it flows with majefty towards the cities, where it conveys plenty, by means of the fhips it bears. " The river of God is full of water ;" thousands of fprings burft from the bofom of the earth, and the vaft ocean embracing it, abforbs the whole.

In the infide of our globe, as in a vaft magazine, are found laid up for our different occasions, falts of various forts, quarries, mines, stones, metals, &c.

Laftly, the very air which we breathe is full of bleffings. The clouds which collect there pour upon us thefe fruitful rains, which " water our furrows, and make them foft, and which caufe the land to yield its fruits in their feafon." The fame air, befides giving free paffage to those winds which fweep away contagion, transmits alfo this

beneficial light and these falubrious rays which illumine, warm, and quicken all nature.

Here let us paufe, and adore that beneficent, that almighty Hand, that only inexhaustible Source, that Ocean whence flow all our bleffings. And let us endeavor to deferve those that are eternal, which as much surpass the prefent, as the heavens are beyond the earth, eternity beyond time, the Creator beyond the creature.

MAGNIFICENCE OF GOD IN HIS WORKS.

" These are thy glorious works, PARENT of good,

" ALMIGHTY ! thine this universal frame,

" Thus wondrous fair ; thyfelf how wondrous then !"

MILTON.

19

WHY is there fuch fplendor in the works of God ? Why is there fuch magnificence in all that we fee ? Why do we every where difcover fuch numberlefs objects, which appear each more beautiful than the other, and each of which has its peculiar charms ? Why do we every where find new cause for wonder and admiration? It is, doubtlefs, that we may never cease to admire and adore the great Being, who is infinitely more beautiful, more fublime, and more magnificent. than all which we admire moft in nature. It is that we may continually fay to ourfelves, If the works be fo complete, what muft the Creator be ? If fuch is the beauty of creatures, what must be the inexpreffible beauty, the infinite grandeur of him who beholds with one glance the whole creation? If the fun have a dazzling brightnefs which our eyes cannot bear, ought we to be furprifed that he who lighted that globe dwells in

inacceffible light, where no eye has feen, or can fee him ? Let us, therefore, hereafter divide our attention between God and nature; in order to confider in the latter, as in a glafs, the image of that Being whom we cannot contemplate face to face. Let us collect the many beauties and perfections, which are fcattered over the vaft empire of the creation; and when their innumerable multitude strikes us with aftonishment, we shall fay to ourfelves that, compared with the perfections of their Creator, they are lefs than a drop in the Let us only confider what is amiable and ocean. beautiful in created beings, abstracting what is finite and limited, in order to form a more just and proper idea of the excellence of the Ruler of the universe; and, when the fight of their faults and imperfections shall have leffened our admiration of their beauty, let us cry out ; If the creation be fo beautiful, notwithstanding its defects, how great and worthy of admiration must he be, whose fplendor is fpotlefs, more pure than light, more brilliant than the fun !

"God has fhewn himfelf in the creation as a Being infinitely wife." There is no creature however infignificant it may appear, that has not its ufe; and all of them are formed in the manner beft adapted to the purpofes of their existence. This we know with certainty of those with which

20

we are acquainted, and we may conclude the fame of the reft by analogy. From the fun, down to the loweft worm, or finalleft plant, we fhall every where find, that, for the purpose defigned by the Creator, nothing could be formed otherwife than it is. The most minute parts of each are manifeftly adapted to its deftination : They ferve for the functions prefcribed them; and the whole creature would be defective, if any one of its parts were hurt or taken away. How wonderful is the whole which refults from the connection between all creatures in general ! Each is in its place ; each has its proper office, and none of these could fail without causing an imperfection more or lefs in the whole. When, therefore, we reprefent to ourfelves the Being who formed this innumerable multitude of creatures animate and inanimate; who has not only defigned each of them for certain purpofes, but has difpofed and arranged every part of them in the manner best adapted to those purposes, fo that there is nothing fuperfluous or wanting ; who has, from the connection between each individual, formed an admirable whole, in which there exists the most perfect harmony ; must we not be ftruck with aftonifhment, and cry out with refpectful admiration, " O the depth of the wifdom and knowledge of God !"

" In the creation God has fhewn himfelf a Being infinitely good." What multitudes of animated creatures has his beneficent hand produced ! Is not life invaluable to every thing that breathes ? Is it not a bleffing to the pooreft worm ? What pleafure does not God take in doing good, fince he has beftowed on fo many creatures the privilege of existence ! But of what use would their existence be, if they were to be immediately deprived of it? The Creator has therefore ordained, that each fhould live as long as was neceffary for its deftination. He has appointed to each creature the place which it is to inhabit, and each finds on its entering the world every thing neceffary for the prefervation of its life. How many enjoyments and pleafing fenfations does the Creator grant with life to all animated beings, and particularly to mankind ! With what magnificence has he not adorned and embellished the world which man was to inhabit ! What fweets does not focial life afford ! What tender ties, what warm affections, what delightful fentiments has he created for the heart to enjoy ! Let us never be ungrateful to fuch a bountiful Creator; and, fince we are endowed with reafon, and are capable of knowing and loving God, let

us acknowledge with transports of joy, that " the earth is full of his mercies."

"In the creation God has fhewn himfelf as a Being of infinite power." This unlimited power, which is visible in all creatures, is particularly fo in the two extremes, in the greatest and in the most minute works of the universe. What but an almighty hand could form the firmament, that immenfe extent, that prodigious fpace, which contains fuch a number of celeftial bodies ? Who but he could preferve this immenfe fabric, fix it unshaken, and yet keep up in it fo many different, though regular movements ? Who but he could raife the fun to fuch a height, appoint its fituation fo as not to deviate from it, and maintain it unsupported in that vast expanse ? Could any but an almighty power give motion to the earth, the moon, and ftars, fo as to run invariably the course prefcribed them, to finish and begin again their revolutions at certain appointed periods? Or, if we confider the divine Omnipotence in the fmallest objects, we shall find it there as incomprehensible as in the largest. We need only caft our eyes on the dust under our feet. Even that is inhabited by an innumerable multitude of animals, fo finall that feveral thousands of them joined together would not be equal to a grain of fand. Yet each of thefe animals has its exterior and interior parts; each has its fenfe and feeling, each has its inftinct, loves life, and endeavors to preferve it. Behold alfo the grafs of the field, the hairs of your head, the bloffoms of the trees, and ftudy their conftruction, their origin, and ufe. We fhall every where difcover wonders; every where acknowledge the infinite power of him who forms celeftial globes with as much eafe as he creates a worm or caufes a flower to grow.

How great and numerous are the works of God ! They are full of wifdom, and the earth is filled with bleffings. May thefe reflections excite in us the love, refpect, and confidence, due to the wifeft, beft, and moft mighty of Beings !

PLEASURES WHICH THE CONTEMPLATION OF NATURE PROCURES.

- " Where'er the pleafing fearch my thoughts purfue,
- " Unbounded goodnefs rifes to my view ;
- " Nor does our world alone its influence fhare ;
- " Exhauftlefs bounty and unwearied care
- " Extend through all th' infinity of fpace,
- " And circle nature with a kind embrace."

BLACKMORE.

25

NATURE offers to all her children, with maternal goodnefs, the first, the most innocent, the least expensive, and most universal of all pleasures.

It is almost impossible not to find charms in the contemplation of nature. And that it may be enjoyed without expense is manifest; the poor as well as the rich may indulge in it. But this is what less the rich may indulge in it. But this is what less the rich may indulge in it. But this is what less the rich may indulge in it. But this is what less the rich may indulge in it. But this is what less the rich may indulge in it. But this is what less the reasonable, nothing should give more value to a bleffing than the thought that it makes the happiness of our fellow creatures, as well as our own. Compared to this pleasure, fo noble and fo fensible, how trifling and vain are those far fetched magnificent amusements which the rich

obtain with fo much trouble and expense, which leave a certain void in the foul, and always end in ennui and difguft ! Whereas nature, rich and beneficent, prefents us continually with new. Pleafures which are only the work of objects. our own imagination are of fhort duration, and vanish like a dream, the charms and illusions of which are loft at the moment of waking. But the pleafures of reason and of the heart, those which we enjoy in contemplating the works of God, are folid and lafting, becaufe they open to us an inexhaustible fource of new delights. The ftarry fky, the earth enamelled with flowers, the melodious notes of the birds, the various landfcapes and profpects one more delightful than another, may continually furnish us with new fubjects of fatisfaction and joy. If we be infenfible to thefe it is certainly our own fault; it is becaufe we behold the works of nature with an inattentive and indifferent eye. The duty of a rational being confifts in enjoying innocently all that furrounds him. He knows how to draw refources from every thing, and has the art of being happy under any circumstances.

26

ENJOYMENTS WHICH WE FIND IN NATURE.

- " Happy the man, who from the world escap'd,
- " In ftill retreats and flowery folitudes,
- " To NATURE's voice attends from month to month,
- " And day to day through the revolving year ;
- " Admiring fees her in her every fhape ;
- " Feels all her fweet emotions at his heart ;
- " Takes what fhe liberal gives, nor thinks of more."

THOMPSON,

27

 $O_N$  whatever part of the creation we turn our eyes we every where find fomething, which interefts either our fenfes, our imagination, or our reafon. All nature is fo formed as to afford us numberlefs pleafing objects, and to fupply us with various enjoyments continually fucceeding each other. Our love of variety is conftantly excited and conftantly gratified. There is no part of the day that does not afford us pleafures both for our fenfes and our minds. While the fun illuminates the horizon, the plants, the animals, with a thoufand agreeable objects, delight our eyes : and when the night fpreads its veil the majefty of the fky transports and charms us. On

С

every fide nature labors to furprife us with new pleafures. Even the finallest worm, a leaf, a grain of fand, prefent us with objects of admiration. The fame fpring which waters the vallies, invites us to fleep, pleafes the ear, and ferves alfo to quench our thirst. The shady forest, which defends us from the intense heat of the fun. where we enjoy a delightful coolnefs, and where we hear the melody of various birds, feeds at the fame time a multitude of animals, which will themfelves ferve for food to us. Those trees, the bloffoms of which were a few months ago, fo pleafing to the fight, will foon fupply us with delicious fruit ; and those meadows, now covered with waving corn, will foon yield us a plentiful harvest. Nature presents no objects to us that are not pleafing and ufeful in more than one refpect. The merciful care of Providence ordained that the color of green, the most mild and pleafing to the eye, fhould clothe and cover the earth. It was in itfelf agreeable to the fight, but variety might add charms to it. For this reafon we fee light and fhade fo happily diftributed, those different degrees of color, and those various shades of green. Each fort of plant has its regular and peculiar color. Landfcapes covered with woods, bushes, greens, herbs, and corn, afford a magnifi-

28

cent scene of verdure, in which the tints are infinitely varied, mixed, cut, or blended infenfibly, and yet are always in perfect harmony. Each month affords us different plants and flowers. Those that have ferved their purpose are replaced by others; and thus fucceffively prevent any void in the vegetable kingdom. But to whom do we owe thefe numerous and varied gifts ? Who is he that provides for our wants and pleafures with fuch goodnefs and munificence ? Go and afk it of all nature : the hills and the valleys will tell thee; the earth points him out to our fight ; the fky is a mirror in which we may behold him; the ftorms and tempefts proclaim him; the voice of thunder, the rainbow, the rain, and the fnow, declare his wifdom and goodnefs. The green fields, the meadows covered with gilded corn, the mountains crowned with forefts, raifing their heads to the very clouds, the trees laden with fruit, the gardens enamelled with flowers, the rofe in its full beauty, all bear the imprefiion of his handy work. And all the numerous hoft of animals which people the air, the earth, and the fea, declare the glory of the Almighty, and proclaim his exiftence. How unpardonable should we be, were we deaf to this

general voice of nature ! Oh ! let us, that are happy witneffes of thefe wonders, let us, in the prefence of all his creatures, pay him that homage of gratitude and adoration fo juftly due to him. Thofe rich lands, where our flocks graze, thofe forefts which afford us fhade and fuel, that fky which is over us, and gives us light, every thing invites to grateful joy. Let our fouls be filled with it. Let the fenfe of our happinefs, and of God's bleffings, attend us in our walks, and follow us into folitude. We fhall find that there is no fatisfaction more heartfelt, more lafting, or more conformable to human nature, than the calm pleafures which the contemplation of the works of God affords.

30

NATURE IS A LESSON FOR THE HEART.

" Of nature, ever open ; aiming thence " Warm from the heart, to learn the moral fong." THOMPSON.

WE gain, in every refpect, by fludying nature; and it may, with reafon, be called A SCHOOL FOR THE HEART, fince it clearly inftructs us in our duty towards God, our neighbor and ourfelves.

Can any thing infpire us with more profound veneration towards GoD, than the reflection that it is he who has not only formed our globe out of nothing, but whofe almighty hand alfo confines the fun within its orb, and the fea within its bounds ? Can we humble ourfelves too much before that Being who created the innumerable worlds which roll over our heads ? Muft we not fhudder at the very thought of offending that God, of whofe boundlefs power we every moment fee proofs, and who with a fingle glance can deftroy or make us wretched ?

But the contemplation of nature is highly calculated to fill us with love and gratitude towards its Author. All nature loudly proclaims this c 2 comfortable truth, that God is love. It was love which induced him to create the world, and to communicate to other beings the felicity which he himfelf enjoys. Is there in reality a fingle creature, which does not furnish proofs of these beneficent regards ? But particularly, if we reflect on ourfelves, how many may we not find ? The Creator has endowed us with reafon, not only to enjoy his bleffings, but to acknowledge alfo the love with which he honors us, and which enhances infinitely the value of his favors. Ought not fo many bleffings daily enjoyed to excite our most grateful acknowledgments and win our most constant obedience ? And when we reflect on the admirable order which reigns throughout all nature, ought it not to produce the beft difpofitions in our minds? If we are convinced that nothing can be pleafing to God, which is contrary to order and regularity, fhould we not conform to it ? How unpardonable to oppose, by our irregularities, the merciful defigns of Providence in our favor ?

It is thus that nature becomes an excellent lefton for the heart. If we liften to it, we fhall learn the true wifdom which leads to happinefs.

MEDITATION ON THE WORKS OF NATURE.

" Fair are the fcenes of nature, rich its flores, " Indulgent fpread for man : but man is mortal. " Then let him ftretch his views to other worlds, " Where blifs immortal waits the virtuous foul."

 $F_{ATHER}$  of the universe ! preferver of all that breathe ! how great is thy majefty, and how many wonders thou fheweft unto man! It is thy hand which has ftretched out the heavens, and fet them thick with ftars. Now, I behold the fun, fhining in all its fplendor, to reanimate nature. To-morrow, perhaps, it will be no more for me that the birds make the woods, the fields, and the vallies refound with their melodious notes. I feel that I am mortal; my life fades away like the grafs of the field : it withers as a leaf fallen from the branch where it grew. When the grave shall have swallowed me up, when darknefs and filence come upon me; what will then remain of my earthly poffeffions? Will not all be loft to me, though even all my wifhes had been gratified, and I had here enjoyed unmixed happinefs ? O how fenfelefs fhould I be, were I to attach myfelf to the transitory bleffings of this world ! If I afpired to great riches, if I was ambitious of empty honors, and if allowing myfelf to be dazzled by vain fplendor, envy and pride fhould take pofferfion of my heart; if too eager in my wifhes, I have purfued what I ought not to afpire to, I humble myfelf before thee, O God.

When, in the morn, on the green turf covered with dew, every thing prefents me a: cheerful profpect, and the wings of the night have cooled the burning heat of fummer, wildom cries out to me, O mortal ! why doft thou harbor cares ? Why yieldeft thou thyfelf to anxiety? Is not God thy Father ? Art not thou his child ? Will not he who made thee, take care of his own work ? The plan of thy exiftence is not limited to this earth, it embraces heaven. Life is but a moment; and the longest earthly felicity is but a pleafing dream. O man ! thy defination is immortality. The thought of immortality raifes us above the earth, the universe, and time. It fhall awaken my heart, when feduced by falfe pleafures, I am inclined to quit the path of virtue. The rofes which crown the head of the wicked foon fade. His fhameful enjoyments difhonor him, and repentance fucceeds them. I am but a fojourner upon earth, and none but immortal joys deferve purfuit.

35

HYMN OF THANKSGIVING FOR THE WORKS OF THE CREATOR.

" Nature's replenifh'd theatre furvey— " Then, all on fire, the Author's fkill adore, " And in loud fongs extol creating power !" BLACKMORE.

To thee, O Lord ! from whom proceedeth every bleffing, and who difpenfeft them fo bountifully, to thee belong glory, honor, and thankfgiving. Thou heareft the cries of the young raven, and takeft pleafure in the fong of the lark ; vouchfafe to liften alfo to my voice, and accept the tribute of praise due to thee. The least of the creatures formed by thy hand proclaims thy wifdom. The traces of thy goodnefs and power are feen from one end of the year to the other, and are continually renewing. With parental tendernefs thou provideft for our neceffities, and giveft to men and animals their proper food. It is in the hope of thy bleffing, that the farmer fows his corn : it is thou who makeft the feed fruitful. Thou watereft the furrows of the fields. Thou clotheft the meadows, the valley, and the

plain with flowers, and herbage, with trees and groves. Thou ordereft the cool and refreshing dew to moiften our gardens and fields, and to fhed on them fertility and abundance. The barren and dry foil thou waterest with gentle rains. The cold and wet places thou warmeft with the rays of the fun. The weather and the feafons thou ordereft in wifdom, and in the manner moft beneficial to mankind. Thou covereft our fields with rich harvefts, and the wings of the wind fupport the waving corn. Thou adornest the tops of barren rocks with grapes. Thou dreffeft our pafture with clover; and by thy command, the fountains and ftreams give drink to the thirsty animals. Thou caufest the tree to take root, and it profpers. A quickening fap circulates through its trunk, and gives it force to branch out with leaves and bloffoms ; while the abundance of fruit, under which the boughs bend, proves the pleafure which thou haft in doing good. We, therefore, glorify thee, our Creator, our Benefactor ! we blefs thy holy name ! All thy works are great, and good, and wonderful. We rejoice in thy goodnefs.

GOD'S UNIVERSAL CARE OF HIS CREATURES.

" The holy power that clothes the fenfelefs earth
" With woods, with fruits, with flowers, and verdant grafs,
" Whofe bounteous hands feed the whole brute creation,
" Knows all our wants, and has enough to give us." Rowe's Fair Penitent.

EVERY creature that lives in the air, in the water, or upon the earth, has its part in the care of a divine Providence, to which it owes its prefervation. Animals void of reafon are endowed with organs, ftrength, and fagacity, fuitable to their feveral deftinations. Inftinct warns them of what might be hurtful or dangerous; and enables them to feek, to diftinguish, and to prepare the food and habitation proper for them. All this is abfolutely involuntary. It is not the refult of reflection. They are irrefiftibly led on by a propenfity, which a fuperior Power has given them for the prefervation of their animal life. They find the food, and the retreats convenient for them; and no fpecies of animals is deftitute of what is neceffary for its welfare and fustenance. Men are of a more excellent nature; but they are born in a more helples ftate; and they require, beyond comparison, more affiftance than most other animals ; their wants, their faculties, their defires are more numerous and great; they are therefore diftinguished by greater bleffings, and more marked attentions of Providence. The earth, the air, and the water, the clouds, and the light of the celeftial globes, contribute more abundantly, and in a more varied manner, towards their prefervation. God has placed the irrational creatures under their command, in order to make them ferve for their fupport and convenience. What particularly deferves our attention is, that every part of our globe which is inhabited, furnishes fufficient food for the creatures that live upon it. Admirable effects of divine Providence ! not only the fertile bofom of the earth, but alfo the vaft plains of the air, and the depths of the fea, abound with food proper for the maintenance of the innumerable multitude of animals, that live and move in those elements. The treasures of divine goodnefs are inexhauftible !

The world does not decay. The fun returns with its accuftomed light and heat : The fertility of the earth never diminishes : The feasons fucceed regularly, and the earth never fails to pay its annual tribute of provision for the prefer-

vation and fupport of its innumerable inhabitants. Whether we confider the continuance of the profusion, or the variety of the means of fustenance, which nature every where provides, we perceive throughout, the traces of a beneficent and univerfal Providence. All things that furround us, and ferve to fustain and procure us the fweets and pleasures of life, are fo many visible means, fo many channels through which our invisible Benefactor continually dispenses his favors. The agents of nature are the ministers which fulfil the defigns of his Providence. The world is his magazine, and we take out of it all that is neceffary for use. It is to his goodness, it is to his tender mercies that we are indebted for it.

"Father of all beings, how extensive are thy mercies, how great, how inexpreffible ! In thee we live, move, and have our being; and thou fuftaineft all things by thy mighty word ! The lot of mortals is in thy hand : they are only happy through thee. Thou art their fovereign good; and thy paternal cares are over all mankind. It is by thy command that the zephyr cools and refress us, that the rose embalms the air with its perfume, that the most delicious fruits please our palates, that the dew of heaven revives us. Thou proportioneft thy gifts to the

wants of thy creatures ! Thou makeft the righteous to feel the fweet and falutary effects of thy grace ! Thou giveft to the bee its nectar in the flowers ; to the worm a drop to quench its thirft ; to the world the rays of the fun. O thou who poffeffeft fovereign felicity, and doft not difdain to communicate happinefs to the pooreft infect, which could not exift a moment but by thy will ; permit me to raife to thee a new hymn, and deign to accept my weak lays ! Penetrated with joy and gratitude I will fing to thy name, magnify thy goodnefs, and pay thee due adoration, praife, and glory."



DAILY PROOFS OF GOD'S GOODNESS.

" Almighty caufe ! 'tis thy preferving care

" That keeps thy works forever fresh and fair :

" Thy watchful Providence o'er all intends;

" Thy works obey their great CREATOR's ends."

BOYSE.

41

Not to acknowledge the hand of Providence. but in extraordinary cafes, is to betray our ignorance and weaknefs. In the ordinary courfe of nature things occur daily, which ought to excite our attention and admiration. The formation of a child is as great a miracle of the power and wifdom of God, as the creation of the first man formed out of the duft. Likewife the prefervation of our life, if we reflect on the feveral caufes and effects which combine for that purpose, is no lefs wonderful than the refurrecton of the dead. The only difference between them is, that one happens but feldom, whilft we every day witnefs the other. This is the reafon that it does not ftrike us more fenfibly, or raife our admiration as it would otherwife do.

Undoubtedly my own experience ought to convince me fully that a divine Providence watches over the prefervation of my days. I am not certain of a fingle moment of my life; a thoufand unknown and latent caufés may haften

the end of it, chill my blood, or ftop my breath. Subject to fo many evils, to fo many wants both mental and corporal, I am thoroughly convinced that, were it not for the tender mercies of God, I fhould be a very wretched creature. The union of my body and foul, their reciprocal and continual action on each other are inconceivable, and depend neither on my will nor power. The beating of my pulfe, the circulation of the fluids within me, goes on without interruption, and without my being able to contribute to it in the fmalleft degree. Every thing convinces me that my faculties, my ftate, the duration of my existence do not depend on my will. If my breath be not yet ftopped ; if my blood ftill circulate ; if my limbs have not yet loft their activity; if the organs of my fenfes have preferved their play; if in this inftant I have the faculty of thinking and the use of my reason ; it is to God alone that I am indebted for it. But why do I reflect fo feldom, and with fo little gratitude on the daily ways of Providence ? Ought not the reflections which now offer themselves to have been always imprinted on my heart ? Ought I not, at leaft, every morning and evening of my life to meditate on the benefits of my Creator; to admire and blefs him for them ? Divine preferver of my life ! I regard thy providence, and confide in thy mercy; make me happy in thy favor !

43

REASONS FOR CONFIDENCE IN GOD.

".O He is good, He is immenfely good, "Who all things form'd, and form'd them all for man: "Who mark'd the climates, varied every zone, "Difpenfing all his bleffings for the beft, "In order and in beauty !"

WHEN I reflect on the infinite perfections which are manifested in the plan of the universe, and on the manner in which God conducts and governs it, my confidence in him must necessarily be more and more increafed and ftrengthened. How eafy ought I to be in regard to my fate, fince it is in the hands of that great Being, of whofe power, wifdom, and goodnefs I have as many proofs as there are creatures before me ? What wifhes could I form for my happinefs, which might not be fulfilled by that God whofe unlimited power has been able to raife out of nothing fo many millions of worlds ? Are there any troubles, forrows, or difficulties, from which I may not be happily delivered by that infinite wifdom which has fpread the heavens, and formed every creature in fo wonderful a manner?

F

What can hinder me from committing my way unto the Lord ? What can prevent me from having recourfe to him in all my troubles and diftreffes, and from hoping that he will hear my prayer ? It is true that I am but a very weak creature ; I am lost in the vast multitude of his works ; and, when I reprefent to myfelf his greatnefs, and the infinite extent of his government, I often fay to myfelf : Who am I that dare to hope that this great Being will always listen to me, and that he will deign to cast his eyes on me, every time that I may have recourfe to him? But, on the other hand, I comfort myfelf, when I confider that his greatnefs, his majefty, and the government of fo many millions of worlds, do not hinder him from extending his cares for the finalleft worm. Why then may he not give fome attention to me, who, though fo infignificant, have received from him, both as a man, and as a Chriftian, prerogatives much fuperior to those of other creatures? Here my confcience ftops me, and reproaches me with being a finner, with having a thoufand and a thoufand times, wilfully tranfgreffed the commands of my Creator and Maker; and, that therefore I am more unworthy of his goodness than the most abject of his creatures. My confcience reprefents the

justice of God to me in as ftrong colors as the whole univerfe paints to me his power and goodnefs. But it is here that the falutary truths of the gofpel come to my affiftance. It is only through our Redeemer that I can look up to this God, whofe greatnefs all the world proclaims; that I can, I fay, look up to him as a father, put my truft in him, and hope that he will grant me happinefs, not only in this life, but to all cternity.



#### REASONS FOR CONTENT.

" Nature's skilful hand,

- " Dreft up with fun and fhade, and lawns and ftreams, " A manfion fair and fpacious for its gueft,
- " And full replete with wonders. Let me here,
- " Content and grateful, ripen for the fkies.

MRS. BARBÁULD.

LET fweet content take possession of our fouls. God is good. Love and mercy fhine through all his works. Let us contemplate his mighty deeds. The world, and all it contains, evidence his beneficence and wifdom. The heavens and the earth witnefs his power. The fun that rules by day, and the moon that fhines by night, all things that have life or motion proclaim the mighty God. Confider the works of his Men and brutes ; even the objects that hands. appear leaft in our eyes, the blade of grafs, and the grain of fand, teach us to know him. Oh! how fhall we worthily praife and exalt him, to whom we owe exiftence and life ? Our bodies, and the fouls which animate them, are gifts of his hands. If we are a prey to adverfity, if op-

prefied with forrows, fcarce do we feel the weight of them, when God enables us to fupport them. He grants us his affiftance, and our evils are banished. O my foul thou haft long experienced this ! Let me never forget it, nor give way to the fear of being deferted by a God, who cannot hate his children. Let us therefore fubmit to his holy will. Let us blefs him for all his difpenfations; perfuaded that he will accomplish all his merciful defigns; for he is great in wisdom, and abundant in means.

#### REFLECTIONS ON THE ANIMAL CREATION.

"Who taught the nations of the field and wood "To flun their poifon and to choofe their food ? "Prefeient the tides, or tempefis to withftand, "Build on the wave, or arch beneath the fand ? ""Gop, in the nature of each being founds "Its proper blifs, and fets its proper bounds."

POPE.

WE may confider the animal kingdom as a well governed ftate, in which there are a proper number of inhabitants, each in the place appointed for it. In this animal kingdom, the little and the weak which compose the greatest part of it, are. fubject to the ftrong and the powerful; but the whole are fubject to man, as to the reprefentative of the Deity. Animals find, in every part of the earth, enough to employ them, and enough to feed on. They are accordingly difperfed every where ; and their nature, their organs, their feveral conftitutions, are all adapted to the different fituations defigned them. Their employments differ greatly. All tend either to increafe their fpecies, to maintain an equal balance between the animal and the vegetable kingdom, to provide proper food, or to defend themfelves against their enemies. The Creator has

given them an inftinct to compenfate for the want of reafon. An inftinct varied in a thoufand ways, and according to their feveral wants ; an inftinct for motion, for food, to enable them to diffinguish it with certainty, to find it out, to feize upon it, and to prepare it; inftinct to build nefts and proper habitations, to lay in provisions, to transform themfelves : inftinct for the increase of their kind : inftinct to defend and fecure themfelves, &c. In each class of animals there are fome which live on prey, and individuals which fuperabound in other claffes. Each fpecies has its particular enemies, which keep up the proper balance, and prevent any from multiplying too much. The fick animals, or those that have any defect, are generally the first which ferve as food for others. The fruit and the carcaffes which corrupt are eaten up, the earth is not incommoded by them, nor the air infected. Thus nature preferves its beauty, freshness and purity. The beafts of prey have a make conformable to their deftination. They are endowed either with peculiar ftrength, agility, induftry, or addrefs. But in order to prevent them from deftroying whole fpecies, they are confined within certain limits. They do not multiply fo faft as other animals, and they often mutually deftroy

each other, or their young ferve as food for other creatures. Some fleep during winter, digeft flowly, and feed on the productions of the earth for want of other food. The weaker animals are provided with defence in proportion to their fituation, and the dangers to which they are expofed. Their natural arms, their fwiftnefs, their habitations, their fcales or fhells, their cunning, preferve them from deftruction; and by thefe means the proper balance is always kept up, as to the number in every fpecies of the brute creation.

The animals which give milk are the largeft, and confequently the leaft numerous, but they fulfil very important offices. The finalleft animals are the moft numerous, and, in proportion, more voracious than the larger.

All we behold fo admirable in the animal kingdom proves the existence of a Being who possible possible the highest degree of wisdom and knowledge. Who but he could have peopled this immense globe with fo many different species of living creatures, providing for them every thing necessary? Who but he could give food to fuch infinite multitude of creatures according to their different tastes, and find them covering, and habitations; and give them whatever they

require to guard and defend them, which they effect with fo much addrefs and fagacity, fo many inftincts and fuch industry ? Who but he could have kept up the equal balance between fo many different species and classes of animals ? Who but he could appoint for each living creature the element fuited to it ? or form that amazing number of limbs, joints, bones, muscles, and nerves joined together, and placed with fo much art, harmony and perfection, that each animal can perform its feveral motions, in the manner most convenient and best adapted to its way of life, and the different fituations in whick it is placed ?

O Lord God Almighty ! it is thou only who couldft do fuch things, and to thee belongeth all glory, praife and thankfgiving.

THE SPHERICAL FORM OF THE EARTH.

- " The form orbicular of earth he prov'd,
- " How in the ambient air 'twas poiz'd and mov'd,
- " How day and night alternate hence appear,
- " And varying feafons grace the rolling fphere."

PEOPLE generally suppose the earth an even plain, a round flat furface ; but if that were the cafe, the exterior limits of this furface would be found out; and in approaching any place, it would be impoffible to fee the tops of towers and mountains before the lower parts of them. The earth then must be a globe ; but it is not exactly and strictly spherical, for it is a little more raifed at the equator and flatter towards the two poles, nearly refembling an orange. But that deviation from a fpherical form is very inconfiderable, at most only thirty-four miles, which is fcarcely perceptible in a globe, whofe circumference is about twenty-five thousand miles, and diameter feven thousand nine hundred and twenty-eight. There will be no doubt of the figure of the earth being nearly fpherical, if we confider that, in the eclipfes of the moon, the fhadow which the earth cafts on that planet

is always round. Befides, if the earth were not round, how could they have failed round it, or how fhould the ftars rife and fet fooner in the eastern than in the western countries ? Here, again, is the wifdom of the Creator manifest. The form which he has given to the earth is the most proper and convenient for a world like ours, and for its inhabitants. Light and heat, fo neceffary for the prefervation of creatures, are, by this mean, equally and uniformly diffributed over the whole earth. From thence, alfo, proceed the returns of night and day, heat and cold, wet and dry, fo conftant and regular. The water, in the first place, is equally, distributed over the globe, and the falutary use of the winds is felt over every part of the earth. We fhould be deprived of all those advantages if our earth had any other form. In fome countries it would be a paradife, in others a chaos; one part of it would be fwallowed up in water, the other burnt up with the heat of the fun. In certain countries they would be exposed to furious tempests, which would deftroy every thing, whilft they would be stifled in other places by the want of air, the current of which would be nearly ftopped. One part of the earth would enjoy the benign influence of the fun, whilft the other would be frozen with cold. What pride and ignorance fhould we not betray, if we did not acknowledge in this the hand of an almighty and beneficent Creator ? Should we deferve to inhabit a world, where all is fo wifely ordained, if, like the brutes, we were infenfible to this admirable plan, and to the numberlefs bleffings which accrue from it ? No, my God and my Creator, let us never be guilty of fuch monftrous ingratitude. Filled with aftonifhment and admiration at the fight of thy works, we adore thy wifdom.

and the research of the local days

have been and and and the house there

and the second s

UTILITY OF MOUNTAINS.

\* See how fublime the uplifted mountains rife, "And with their pointed heads invade the fkies. "How the high cliffs their craggy arms extend, Diftinguifh States and fever'd Realms defend : "From intercepted clouds collect the rain— "And furnifh fprings and rivers for the plain."

BLACKMORE.

55

Would it not be more advantageous to our globe, if its furface were not fo uneven, and if it were not disfigured by fo many mountains? We fometimes think that the form of the earth would be much more regular, that our fight would extend farther, that we fhould travel more conveniently, and enjoy many other advantages, if the earth were only one vaft plain. but, perhaps, we are miftaken in this opinion. Let us then inquire into it, and reflect on the use of mountains, in order to fee if there be any reafon to be difcontented with the prefent arrangement of our globe. In the first place, it is evident that it is from the mountains and hills that the fprings flow, which are produced either by heavy fnows, or by the clouds with which those heights are often covered. They keep up the courses of great and finall rivers. Those chains of high mountains which extend from east to west, and which traverse a great tract of country, ferve to prevent the dispersion of vapors, and to condense them into water. They are as so many stills, which prepare and render the water sweet, for the use of man and beast. Their declivity gives a moderate fall to the springs, which, flowing thence, water and fertilize the vallies.

Befides this ineftimable advantage of fprings and fountains which the mountains procure us, they have many others. They ferve for dwellings and afford fubfiftance to feveral kinds of animals which are ufeful to us. On the fides of mountains there grow trees, plants, and an innumerable quantity of falutary herbs and roots, which are not cultivated with equal fuccefs in the plains, or have not the fame virtues. It is in the bowels of the mountains that metals and minerals are formed.

Mountains are, in a manner, the bulwarks of nature, to thelter countries against the fury of

feas and ftorms ; and, like ramparts and natural fortifications, they protect feveral ftates from the invation of enemies, and the ambition of conquerors. They perhaps preferve the balance of our globe. It is true that fome of thefe mountains are dangerous and formidable. They occasion many flocks and earthquakes ; and the volcanoes fpread flames and deftruction all around. But though there fhould be fome inconveniences from them, yet these cannot furnish any reasonable objection against the wifdom and goodness of God in their formation; fince the bleffings which we derive from them are greatly fuperior to the evils which they occafion. In this refpect, then, we have no reafon to complain of the contrivance. of our globe. If there were no mountains we should be deprived of feveral forts of stones and foffils. There would be no rivers, no fprings, no lakes. We should want a great number of the fineft and most falutary plants, and feveral forts of animals. The privation of one fingle thing in nature might be fufficient to make our lives fad and miferable. Let us therefore conclude that mountains, as well as every other part of nature, prove the wifdom, power, and goodnefs of the Creator.

UTILITY OF RAIN.

" The fhadowing clouds diffill the genial rain "Whofe copious waters cheer the thirfty plain."

 $I_N$  the trueft fenfe of the word rain deferves to be called a prefent from heaven. The bleffings which our heavenly Father pours upon us by this mean are equally abundant and neceffary for us. As the confequences of a continued drought would be fatal to us, fo the advantages are equally precious which the refrefhing flowers afford.

The heat of the fun acts without interruption on the different bodies on the earth, and continually exhales thin particles from it, which fill the atmosphere in the form of vapors. We should breathe those dangerous exhalations with the air, if now and then they were not carried off by the rain, which precipitates them upon the earth, and thus clears and purifies the air. It is not less useful in moderating the burning heat of the atmosphere; and the reason is very evident; for the nearer the air is to the earth, the more it is warmed by the reflection of the fun's rays; and the farther it is from us the colder it is. The rain that falls from a higher region, brings to the lower a refreshing coolness, of which we always feel the agreeable effects when it has rained. It is also to the rain that we must partly impute the origin of fountains, wells, lakes, and rivers. Every body knows in what abundance we are fupplied with those feveral fources of water in the wet and rainy feafons; whereas they evaporate during a long drought. But to feel how ufeful and neceffary rain is, we need only obferve how the earth and vegetables languish for want of these fruitful showers, without which every thing would perifh. Rain is in many refpects the food of vegetables. It circulates in the finer veins, and in the veffels of plants and trees, and conveys to them those beneficial juices which preferve their life and give them growth. When it pours on mountains, it fweeps from them a foft rich earth, which it depofits in the vallies where it falls, and which it fertilizes.

God has planned all with wifdom, and the earth is full of his goodnefs. Such is, without doubt, the conclusion that we must all draw from these reflections. And if from these we be led

Æ

to adore and blefs him, let us purfue the fubject, that it may make a deeper imprefiion on our minds.

What finer object can be prefented to our fight than a clear and ferene fky ! Is not that beautiful vault extended over us fufficient to fill every heart with admiration and delight? But all the beauties of the fky would difappear, if, by the direction of the winds, the clouds fhould come and draw a thick curtain before us. What are the fentiments which fuch a revolution would create in us ? Thefe are at least what it ought to infpire : However beautiful this fcene which we contemplate with fuch delight, there are fome incomparably greater, of which no cloud can deprive us, and which would make us ample amends for the lofs of all others. For what are all the beauties of nature compared to the beauty of that great Being, in whofe contemplation alone an immortal fpirit can find felicity ! It is not without defign that God fometimes deprives us for a while of those things which give us most pleafure. He then teaches us to feek our happiness in him, and to confider him as our fovereign good. Befides, are not those very privations often compensated by many outward advantages ? Those clouds which con-

ceal from us the beauty of the fky, are the fources of beneficent rains, which render the earth fruitful. Let us remember this; and every time that adverfity makes our days gloomy and melancholy, let us be perfuaded that even these misfortunes will become, in the hands of our heavenly Father, instruments of future happines. Let us also confider rain as the image of the gifts of fortune : For beneficial as moderate rains may be they are equally hurtful if they laft too long, or come unfeasonably. So it is in respect to earthly goods, too great abundance of which. might be the caufe of our destruction. Let us therefore thank our heavenly Father for refufing us gifts, which we might afterwards find to be real punishments. Let us learn to be content with all the difpenfations of a wife and gracious Providence in the government of the world. God only can know the manner in which his bleffings can best be bestowed. He fendeth forth his commandments to the clouds, and they By to execute the will of their Creator. Shall nan dare to undertake to direct their courfe, though perhaps the leaft confiderable part in the brdinance of the world ? How then can we be ash enough to blame the ways of Providence on nuch more important occasions ?

UTILITY OF RIVERS.

" See how the ftreams advancing to the main" Through crooked channels draw their cryftal train." While ling'ring thus, they in meanders glide," They fcatter verdant life on either fide."

BLACKMORE.

W HEN we calculate the fpace which the rivers take up in our globe, we find that they deprive us of a great part of the continent. Some are difcontent at this, and fuppofe that it would be better if there had been fewer rivers, and more land. But if they would only confider, with what wifdom, and in what due proportion the Creator has planned every thing upon our globe, they would conclude, that rivers have not been fpread over the earth without good reafon, and effential utility to men and other creatures.

It must be obferved, in the first place, that the water of rivers affords a very wholefome drink to man. Spring or pump water, when it has been long and without motion under ground, loofens and infensibly carries away with it fome particles of earth which might prove hurtful to the body;

63

but river water, which is continually evaporating and always in motion, is purified from all dirt, and by that means becomes the most falubrious drink for men or beafts.

However, the utility of rivers extends ftill farther. Is it not to them that we owe the cleanlinefs, the wholefomenefs, and comfort of our houfes, as well as the fertility of our fields ? Our habitations are always unhealthy, when they are furrounded by ftagnant water, and by marshes, or when the want of water occafions a drought. The fmalleft rivulet cools the air around it, and makes it extremely agreeable; and what an aftonishing difference between a country well watered, and one to which nature has denied this affiftance ! One is a barren dry defert ; the other on the contrary, is in fome fort a garden of delights, where woods and vallies, meadows and fields, prefent a thoufand beauties, and the most pleasing variety.

How ufeful are they to commerce ! Of how many machines and mills fhould we be deprived, if they were not put in motion by rivers ! How many kinds of delicate fifh we fhould want, if they did not furnifh us with abundance of them !

But, it will be faid, if there were no rivers, we fhould efcape those inundations which do fo

E 2

much mifchief. But is this inconvenience fufficient to prevent rivers from being a bleffing of Providence ? Do not the numberlefs advantages which accrue from them much exceed the harm which they fometimes occafion ? Inundations feldom happen, and they extend over very little country. Befides, thofe very inundations, enrich and fertilize the ground ; and, to an attentive obferver, they are a proof that God bleffes with one hand, whilft he appears to chaften with the other. Thus, then, the rivers ought to convince us of that divine goodnefs which is over all the earth.



#### OF THE OCEAN.

" The Sea does next demand our view, and there
" No lefs the marks of perfect fkill appear,
" What, but a confcious agent, could provide
" The fpacious hollow where the waves refide ?
" Where barr'd with rock, and fenc'd with hills, the deep
" Does in its womb the floating treafures keep ;
" And all the raging regiments reftrain
" In ftated limits, that the fwelling main
" May not in triumph o'er the frontier ride,
" And through the land licentious fpread its tide."

BLACKMORE.

65

THE Ocean is that general collection of waters which furrounds the whole earth.

The chief things obfervable of it are its vaftnefs, which is fo confiderable as to cover nearly two thirds of the furface of the globe; its depth; its faltnefs; and its tides.

Its *depth* is not equal. In fome places navigators can find no bottom with a line of more than feven hundred and eighty fathom.\*

\* The Compiler is happy in knowing that the fubject of the deepnefs of the ocean has employed the inveftigation of the HON. JAMES WINTHROP, Efq. of Cambridge; from whom the public may expect fome ingenious, learned, and philofophic difquifitions upon this and other particulars in Phyfics which have difcouraged or baffled former inquirers. The ocean is *falt* in all parts of the world : but the degree of faltnefs differs much in different climates, and is greateft in the equatorial regions, where the heat of the fun is greateft, and confequently the evaporation of the water greateft. In the procefs of evaporation the faline particles are left behind, and hence the degree of faltnefs is increafed.

The *caufe* of the faltness of the ocean has been a subject of inquiry among philosophers in almost all ages, but it still remains undetermined.

As no accurate obfervations on the *degree* of faltnefs in particular latitudes were made till the prefent century, it is not poffible to afcertain what was the ftate of the fea at any confiderable diftance of time, nor confequently whether its degree of faltnefs increafes, decreafes or is ftationary.

For this property there appears an exceedingly wife and good reafon. Frefh water muft be in continual and quick motion to keep it from putrifying and flinking; but the channels of the ocean are fo large as render them incapable of a fwift current; fo that it can have no more motion than is given it by the winds, the reciprocation of the tides, and the revolution of the earth about its own axis. To compendate this want of

motion, therefore, the water is made falt, which produces the fame effect as motion would do, and is feparated from it when it is exhaled into vapors.

Of the *ebb* and *flood* of the ocean a more particular account will be given in the next article.

As the earth is full of the divine riches fo is this great and wide fea. It is not an ufelefs wafte of waters, as fome may ignorantly imagine. It is the grand refervoir whence the fun exhales the vapors, to lay them up in clouds as in ftore houfes, to defcend again in fhowers or fprinkling dews, to refresh the thirfty earth and nourifh vegetation.

Again ; it is owing to the vaftnefs of the ocean that the feveral countries all over the face of the earth are fo well fupplied with ftreams and rivers. And we may obferve that inftead of being a means of feparation between diftant countries, it is indeed the centre of commerce for all nations. For, whereas people could not go by land from one end of the world to the other without infinite fatigue, and numberlefs dangers ; by croffing the ocean in fhips, the old world holds connection with the new, and they mutually fupply each other with the comforts and conveniences of life.

\* Hail thou inexhauftible fource of wonder and contemplation ! Hail, thou multitudinous ocean ! whofe waves chafe one another down like the generations of men, and, after a momentary fpace, are immerged forever in oblivion ! Thy fluctuating waters wafh the varied fhores of the world, and while they disjoin nations whom a nearer connection would involve in eternal war, they circulate their arts and their labors, and give health and plenty to mankind.

"How glorious, how awful are the fcenes thou difplayeft! Whether we view thee when every wind is hufhed, when the morning filvers the level line of the horizon, or when its evening tract is marked with flaming gold, and thy unrippled bofom reflects the radiance of the overarching heavens! or whether we behold thee in thy terrors; when the black tempeft fweeps thy fwelling billows, and the boiling furge mixes with the clouds; when death rides the ftorm, and humanity drops a fruitlefs tear for the toiling mariner whofe heart is finking with difmay!

"And yet, mighty deep ! it is thy *furface* alone we view. Who can penetrate the fecrets

" This elegant apoftrophe is taken from KEATE's fletches of Nature.

60

of thy wide domain ? What eye can vifit thy immenfe rocks and caverns, that teem with life and vegetation ? Or fearch out the myriads of objects, whofe beauties lie fcattered over thy dread abyfs ?

"The mind ftaggers with the immenfity of its own conceptions : and, when it contemplates the flux and reflux of thy tides, which from the beginning of the world were never known to err, how does it fhrink at the idea of that divine power which originally laid thy foundations fo fure, and whofe omnipotent voice hath fixed the limits where thy proud wayes fhall be ftayed !"

and the second s

ON THE TIDES.

" So the moon charms her wat'ry world below,

" Wakes the still feas, and makes them ebb and flow."

" 'To agitate and work the troubled deep, " And rolling waters from corruption keep ; " But not impel them o'er their bounds of fand,

" Nor force the walteful deluge o'er the land."

BLACKLOCK.

THE greateft part of the furface of the earth is covered with water, which is called the fea; and that immenfe collection is very diftinct from lakes and rivers. Thefe contain more or lefs water, according to the different feafons; whereas in the fea the quantity of water is almost always the fame; but we obferve the fea increafe and decreafe twice every day, according to certain rules. When it comes to a certain height in a port it foon begins to decreafe : This decreafe continues for fix hours, and the fea is then at the loweft ebb. At the end of fix hours it begins again to rife, and this increafe lafts alfo fix hours; at the end of which the fea has again attained its greateft height. Then it finks again for fix hours, to fwell again for the fame time; fo that in the fpace of twenty four hours the fea twice rifes and falls, and is alternately at the greateft and leaft height. This regular and alternate motion of the fea, which rifes towards the fhore and withdraws again, is called flux and reflux.

When the fea fwells and rifes towards the coafts it is called the flux; and the return of the water towards the main is called the reflux. It is a remarkable circumstance that the tide is regulated according to the course of the moon. The tide is greater and rifes higher towards the time of the new and full moon, and is lower during the quarters. The motion of it is also much more confiderable in Spring and Autumn than in the other feafons. On the contrary, the tides are much weaker during the folftices. This phenomenon is particularly observable in the ocean, where the water fills a great fpace ; but is much lefs fo in limited feas, fuch as the Mediterranean. Finally, the interval between the flux and reflux is not exactly fix hours; it is eleven minutes more; fo that these revolutions do not happen the next day, at the fame moment, but three

quarters of an hour later. They do not return, at the fame hour, till the end of thirty days, which is the time from one new moon to another. What may be concluded on with certainty, from this conftant and regular phenomenon, is that the flux and reflux have fome connection with the motions of the moon.

It is always a pardonable ignorance not to be able to explain perfectly the laws and the courfe of nature : but it is an inexcufable want of attention and gratitude not to reflect on the happy effect which those laws, and those great phenomena, have upon our earth, or to forget what we owe to the beneficent Father of Nature. One great advantage which we have from this perpetual waving of the waters, is to prevent it from ftagnating or corrupting by lying ftill. It is true that the wind alfo contributes to it, but, as there is often a perfect calm in the water, there might refult from it a putrefaction in the bafon of the fea, which is the refervoir for all the waters of the earth to flow into. God has therefore ordered the flux and reflux to prevent hurtful things fettling there. The motion of the water rifing and falling attenuates and feparates the corrupted particles, and by mixing and difperfing the falt, of which the fea is full, and which

would otherwife fink quickly to the bottom, preferve the purity of the whole body of water.

The phenomena of the tides have been well inveftigated and fatisfactorily explained by Sir Ifaac Newton and Dr. Halley, from the reciprocal gravitations of the earth, moon, and fun. As the earth and moon move round a centre of motion near the earth's furface, at the fame time that they are proceeding in their annual orbit round the fun, it follows that the water on the fide of the earth nearest this centre of motion between the earth and moon will be more attracted by the moon, and the waters on the oppofite fide of the earth will be lefs attracted by the moon, than the central parts of the earth. Add to this that the centrifugal force of the water on the fide of the earth farthest from the centre of the motion, round which the earth and moon move (which as was faid before, is near the furface of the earth) is greater than on the oppofite fide of the earth. From both these causes it is eafy to comprehend that the water will rife on two fides of the earth, viz. on that nearest to the moon, and its oppofite fide, and that it will be flattened in confequence at the quadratures; and thus produce two tides in every lunar day,

which confifts of about twenty four hours and forty eight minutes.

Thefe tides will alfo be affected by the folar attraction when it coincides with the lunar one, or oppofes it, as at new and full moon; and will alfo be much influenced by the oppofing flores in every part of the earth.

When the fun and moon are in the fyzygies,\* or in opposition and conjunction, at the time of the equinoxes, we have the higheft tides of all, because then the fun is in the plane of the equator, and the moon the fame or very nearly fo. But, as the earth is nearer to the fun in winter than in fummer, these tides happen rather *before* the vernal equinox, and *after* the autumnal.

Let us now confider who has adjusted the motions of that unruly element with fo much exactnefs and proportion ? A little more motion in the vast flood would drown whole kingdoms. Must it not then be a skilful, a divine hand, that has fet to the fea its unmoveable boundary, which it has kept through a feries of fo many ages, and faid to its proud waves, *hitherto floall you* come, and no farther ?

\* These are the points of the Moon's orbit in which she is at new and full.

Thefe reflections may alfo naturally remind us of a circumstance, which is much connected with this phenomenon : Our life is but a flux and reflux. It increases and decreases : Every thing is inconftant, and liable to change. Nothing is durable. There is no permanent joy, hope, or happinefs. We fwim in a rapid and inconftant river : Let us then take care not to be drawn into the abyfs; and let us endeavor to gain the happy port, the finiling and cheerful fhores. On the other hand, let us blefs God that our evils and anxieties are of fhort duration. An exceffive and lafting grief or pain is as little compatible with our nature as a conftant and perfect happinefs. These changes are certainly an advantage to us. If we enjoyed, through the whole course of our lives, an uninterrupted tide of felicity, we might eafily grow proud, and forget God. As, on the other hand, a continual train of difgraces and misfortunes would fink us entirely, and harden our hearts. Let us then blefs our heavenly Father for his wife decrees; and endeavor to conduct ourfelves through life, in profperity or adverfity, in a manner worthy of our faith, and the hope of everlasting life.

T

### CONTEMPLATIONS ON THE

### EARTHQUAKES.

"Know then, within this globe's capacious womb
"Are veins of living fire—imprifon'd air—
"Sulphureous ftreams with ftrong bitumen mix'd;
"Thefe meeting and fermenting, next explode;
"All wild and rapid, through the laboring earth,
"They pour refiftlefs; burft the folid cliffs,
"And, through the yawning void that whelms at once
"The tumbling city, mount and melt in air."

OGIÉVIE.

OUR earth inffers two kinds of fhocks; one is occafioned by the action of fubterraneous fires, and by the explosion of volcanos. These commotions are felt only at finall distances, and only when the volcanos work before the entire eruption. As foon as the matter which forms the fubterraneous fires comes to ferment and blaze, the fire makes an effort on all fides; and if it do not naturally find a vent, it raifes the earth and makes itself a paffage by throwing it up with violence. But this fort of earthquakes extends only for the space of a few miles. They shake the earth like the explosion of a magazine of powder, which produces a shock, and a fensible

commotion at feveral leagues diftance. But there is another fort of earthquakes, very different in the effect, and perhaps in the caufe alfo. I mean thofe terrible ones which are felt at great diftances, and which fhake a long track of ground, without any new volcano, or any eruption appearing. There are inftances of earthquakes which have been felt at the fame time in England, France and Germany. Thofe extend much more in length than in breadth. They fhake a chain or zone of land, with more or lefs violence in different parts, and are generally attended with a hollow noife like a heavy carriage rolling with rapidity.

The following obfervations may explain the caufes of this fort of earthquakes : All inflammable matter fufceptible of explosion, produces (as powder does) a great quantity of air, or elastic fluid. The air produced by fire is fo very much rarified that it must caufe very violent effects, when it has been long flut up and comprefied in the bowels of the earth. Suppose then that at a very confiderable depth, there should be combustible matter which should take fire by fome means; it must of courfe feek a vent; and if it find none it occasions the most violent shocks. It is impossible to express how fatally dreadful

this fort of earthquakes is. Of all the defolations, of all the cataftrophes upon earth, there are none fo formidable, fo deftructive, and which fo much baffle all human forefight and prudence, as thefe earthquakes. When rivers overflow their banks, and fweep away whole villages, there is ftill fome refource ; it is poffible to efcape upon mountains, or to the upper part of houfes : whereas the calamity of which we fpeak extends itfelf with an irrefiftible power over a whole country, and fwallows up whole kingdoms and people, without leaving the fmalleft trace behind.

Lord God Almighty, who can ftand before thee, when thou difplayeft thy power ! The earth trembles at thy prefence. The foundations of the mountains are fhaken. The hills are moved. Thy anger fpreads like fire, and the rocks are fplit afunder before thee. Who would not fear thee, O Ruler of the earth !

Laftly, let us be convinced that every thing frightful or terrible in nature, all the apparent evil, all the imperfections of the world, have a wife intent. Great and Almighty Being, I will therefore adore and blefs thy name, even when thou fendeft thy plagues, and fcattereft terror and defolation on the earth. I will do more. I

will reft with fure confidence upon thy fatherly care. Though even the world fhould be deftroyed, though the mountains fhould fall and fink into the fea, thou fhouldft ftill be my fupport, my ftrength, and my refuge.



A THE PROPERTY OF A THE A

#### SUNRISE.

"Yonder comes the pow'rful king of day, "Rejoicing in the eaft. The leffening cloud, "The kindling azure, and the mountain's brow "Illum'd with fluid gold, his near approach "Betoken glad."

THOMPSON.

HAVE you ever been a witnefs of the fuperb phenomenon which the rifing fun each day affords ? Or has idleness, the love of fleep, or a faulty indifference, prevented you from contemplating this wonder of nature? Perhaps you may be ranked amongft the multitude of people who never thought a fight of the Aurora worth the facrifice of fome hours fleep. Perhaps you are like many others, who, fatisfied with the light of the fun, do not trouble themfelves with inquiring into the caufe of this great effect. Or laftly, perhaps you are as infenfible as millions of your fellow creatures, who have it in their power to behold this glorious object every day, fee it without being ftruck with it, or without its raifing any idea or pleafing reflection in their minds. It matters little in which of thefe you rank, Suffer yourfelf only to be now at last roufed from this ftate of infenfibility, and learn what thoughts the fight of the morning fun ought to excite in

your foul. There is no phenomenon in nature more beautiful and fplendid. The richeft drefs that human art can invent, the fineft decorations, the most pompous equipage, the most fuperb ornaments in the palaces of kings, vanish and fink to nothing when compared to this beauty of nature. At first, it is the eastern region of the fky which is clothed in the purple of Aurora, and announces the fun's approach. The air by degrees takes the bloom of a rafe, and then fhines with the luftre of gold. Afterwards the ·rays of the fun pierce through the mift, and with them light and heat are fpread over the whole horizon. At laft the fun appears in all the fplendor of majefty. It rifes visibly higher and higher, and the earth affumes a different afpect. Every creature rejoices, and feems to receive a new life. The birds, with fongs of joy, falute the fource of light and day. Every animal begins to move ; and all feel themfelves animated with new ftrength and fpirits.

Blefs the Lord, O my foul ! Let my fongs of praife alfo reach to the heavens where dwells the Almighty, by whofe command the fun rifes, and whofe hand fo guides its daily and its annual courfe as to produce the happy revolution of day and night and the regular fucceffion of the feafons ! Raife thyfelf to the Father of lights, and proclaim his majefty !

## THE RAINBOW.

"Refracted from yon eaftern cloud, Beftriding earth, the grand ethereal bow Shoots up immenfe; and every hue unfolds, In fair proportion running from the red To where the violet fades into the fky."

THOMPSON.

WHEN the fun reflects its rays on drops of water which fall from the clouds, and we are placed with our backs to the fun, and with the clouds oppofite to us, we obferve a rainbow. We may confider the drops of rain as little tranfparent balls, on which the rays fall, and are twice refracted or broken, and once reflected. Hence proceed the colors in the rainbow. They are feven in number, and in the following order : red, orange, yellow, green, blue, purple, and violet. These colors appear fo much the more lively, as the cloud behind is darker, and the drops of rain fall the clofer. The drops falling continually produce a new rainbow every moment, and, as each fpectator has his particular fituation whence he observes this phenomenon,

it fo happens, that two men cannot, properly fpeaking, fee the fame rainbow. This meteor can laft only fo long as the drops of rain that fall are continually replaced by others. To confider a rainbow merely as a phenomenon of nature, it is one of the finest fights imaginable. It is a picture the most beautifully colored of any which the Creator has exposed to our fight. But when we reflect that God has made this meteor a fign of his pardon, and of the covenant which he vouchfafed to make with mankind, we find fubject for more than one edifying reflection. Again; I have the rain pouring down before me, and the fun fhining behind me. Such is the image of my life ! a mixture of forrows and of joys; now clouded with adverfity, and now brightened with profperity; and through whofe tears of affliction faith can difcern the fign of peace, of brighter scenes the promise !

### CONTEMPLATIONS ON THE

# USE AND NECESSITY OF AIR.

\*\* Remark the Air's transparent element,
\*\* Its curious flructure, and its vaft extent !
\*\* Its wonderous web proclaims the loom divine,
\*\* Its threads, the hand that drew them out fo fine.
\*\* Its threads, the hand that drew them out fo fine.
\*\* Its threads, the hand that drew them out fo fine.
\*\* Its open mefhes let terrestrial fleams
\*\* Pafs through, entic'd away by folar beams ;
\*\* And thus a road reciprocal display
\*\* To rising vapors and defeending day.
\*\* This thin, this fost contexture of the air
\*\* Shows the wife Author's providential care,
\*\* Who did the filmy structure for contrive
\*\* That it might life to breathing creatures give ;
\*\* Might re-inspire, and make the circling mafs
\*\* Through all its winding channels fit to pafs,"

Arr is that fubtile and elaftic fluid which pervades and furrounds all our globe. Without recapitulating the innumerable benefits derived from it in the animal and vegetable kingdoms, in the arts of life, and in the texture and cohefion even of inanimate bodies ; we fhall obferve, in general, that it is effentially neceffary to the existence of every animal and vegetable. Not only men, quadrupeds, birds, fishes, reptiles, and the larger infects, but even fleas, mites, and the

minute eels found in pafte or in vinegar, and the animalcules produced by infufing animal or vegetable fubftances in water, inevitably perifh when deprived of this all vivifying element.

Even plants are furnished with numerous air veffels, or respiratory organs. They abforb and transmit air through every pore : and this element is fo neceffary to their existence that they do not vegetate in an exhausted receiver.

In fhort, air is of use to the life and breathing of all animated beings; to the vegetation of plants; to the motion of winged animals; to the formation of vapors, rain, and winds; to the raising and dispersing of those noxious effluvia which exhale from different bodies; to the propagation and conveyance of founds, and to give us the fense of hearing. Without air we could not be able to converse with each other, we should have no music, no finell, no light.

Farther : to the air is owing the refraction of the light, whence we derive the twilight, which in fome measure fupplies the place of the fun : and the gradual foftening of the fplendors of day into the darkness of night : a most wife and kind provision of the author of nature ; for an immediate transition from bright light to total darkness would be extremely painful and injurious to our eyes. And, laftly, to the air we owe the winds, which are nothing elfe but air in motion, and are of fuch abfolute neceffity to the falubrity of the atmosphere, that, without the agitations they occasion we should be poisoned with noxious exhalations, experience showing how unfit corrupt and stagnated air is for respiration.

As the air we continually breathe is an univerfal menftrum, and of courfe liable to be impregnated with exhalations from every fubftance to which it has accefs, the great importance of perfonal as well as of domeftic cleanlinefs is an obvious reflection. In building towns or houfes, the fituation, with regard to air, is a capital object. The vicinity of marfhes; of ftagnating waters; of manufactures of tallow, oil, &c. of butchers' ftalls; and of many other work houfes where filth is generated and air contaminated, fhould be avoided or removed; as they are the pefts of our fenfes and the fickeners of our confitutions.

How grateful fhould we be to him who hath provided this fine elastic fluid as breath for all that live, and made it contribute to many of the uses and comforts of life !

Let all that have breath praife the name of the Lord !

REFLECTIONS ON WOODS AND FORESTS.

" Shade above fhade, a woody theatre .---

" How many are the trees of GOD that grow

" With leaves to heal us, and with fruit to feed !" MILTON.

THE woods form one of the nobleft pictures which the furface of the earth prefents to our eyes. It is true, that at first fight, it is a wild fort of beauty. One only fees thickets of trees, and a dull folitude. But to a well informed obferver, who thinks every thing beautiful that is good and ufeful, there will appear a thousand objects in them worthy attention. Nothing invites us more to reflect on the grandeur and beauty of nature than a folitary wood. The pleafing shade and filence, we enjoy, lead us to collect our thoughts, and awaken the imagination. The number and variety of the trees are the first objects which attract our eyes. They are lefs diftinguished by their difference of height than by their different stems, forms, and leaves. The refinous pine does not excel in the beauty of its leaves, which are narrow and pointed ; but they laft a long time, like the fir, and they preferve

their verdure in winter. The foliage of the linden tree, the afh, and the beech, is much more beautiful and varied : their green is admirable; it relieves and charms the fight. The broad indented leaves of fome of thefe trees form a fine contraft with the narrow fibrous leaves of others. We have but an imperfect knowledge of their manner of multiplying, and the ufe of their fruit.

How numberlefs the ways in which wood is ufeful ? The flow growing oak, the leaves of which are later than any other tree, affords the hardeft and ftrongeft wood ; which art has taught the carpenter, joiner, and carver, to work into a variety of ufeful forms, fo durable as to feem to defy time. Lighter wood ferves for other purpofes; and, as it is in more plenty, and grows quicker, it is alfo of more general ufe. It is to the foreft trees we owe our houfes, fhips, and fuel, with many conveniences for furniture.

Divine wifdom has difperfed woods and forefts in more or lefs abundance all over the earth. In fome countries they are at great diffances; in others they take up feveral leagues, and raife their majeftic heads to the clouds. The fcarcity of wood in certain countries is compenfated by its abundance in others. Neither the conftant ufe made of it fo lavifhly by mankind, nor the

ravages of accidental fires, nor fevere winters, have yet exhaufted thefe rich gifts of nature; for even a few fcattered trees, and humble copfe, produce a foreft in the fhort fpace of twenty years.

Is not the power and goodnefs of God vifible in all this ? How fuperior is his wifdom ! If we had affifted at the creation, poffibly we should have made many objections to woods and forefts ; we might have preferred orchards and fertile tields. But the infinitely wife Being forefaw the feveral wants of his creatures in their different fituations. He vouchfafed to think of us before we could feel our wants, or were able to express them. He anticipated all of them. It is not left to the care of man to plant or keep up forefts. Moft other things are obtained only by labor. The ground muft be ploughed and feeds muft be fown. It cofts the farmer much trouble and toil. But God has referved to himfelf the trees of the forefts. It is he who plants and preferves them. They grow and multiply independent of our care. They repair their loffes continually by new fhoots, and there is always enough to fupply our wants. To be convinced of this, we need only caft our eye on the feed of the linden tree, the maple, and elm. From thefe little feeds

fpring up those vast bodies which raife their heads to the very clouds. It is thou Almighty ! that fixes and maintaines them during ages agains the force of winds and tempess. It is thou that fendes dew and rain sufficient to make them annually renew their verdure, and in some measure to keep up a kind of immortality amongs them.

O man ! thou art loaded with bleffings. Lift up thine eyes towards the great Being who takes pleafure in doing thee good ! The forefts are monuments of his bounty, and thou muft be guilty of the greateft ingratitude, if thou art infenfible to a bleffing of which every moment may remind thee.

orderstand, franks suffice, it washes stored in

and many address that are stated at the

-Richers Marcha 1980 and Same

CONTEMPLATIONS ON THE STARRY HEAVENS.

---- " Ye fhining hofts

- " That navigate a fea that knows no ftorms
- " Beneath a vault unfullied with a cloud ;
- " Ye from your lofty elevation view,
- " Distinctly scenes invisible to man,
- " And fystems, of whose birth no tidings yet
- " Have reach'd this nether world."

COWPER.

THE fky at night prefents to us a fight of wonders, which muft raife the aftonifhment of every attentive obferver. But whence comes it that fo few confider the firmament with attention ? I am willing to believe that, in general, it proceeds from ignorance; for it is impoffible to be convinced of the greatnefs of the works of God without feeling a rapture almost heavenly.

Raife your thoughts towards the fky. And let me inform you that each ftar which from hence appears to us no larger than a brilliant fet in a ring, is in reality an immenfe body, which equals the fun both in fize and fplendor; and is probably not only a world, but alfo the centre, of a planetary fyftem. It is in this light that we must confider the ftars, which fhine

over our heads in a winter night. They are diffinguifhed from the planets by their brilliancy, and becaufe they never change their places in the fky. According to their apparent fize they are divided into fix claffes, which comprehend altogether about five thousand ftars visible to the naked eye. Telescopes have opened to us new points in the creation, fince by their afistance millions of ftars are difcovered. But it would be a very fenfeles pride in man to try to fix the limits of the universe by those of his telescope.

If we reflect on the diftance between the fixed ftars and our earth, we fhall have new caufe to admire the greatness of the creation. Our fenfes alone make us already know that the stars must be farther from us than the planets. Their apparent littleness only proceeds from their diftance from the earth, which diftance cannot be meafured. What then must the flars be ? Their prodigious diftance and their brightnefs tell us, they are funs which reflect as far as to us, not a borrowed light, but their own light; funs, which the Creator has fowed by millions in the immeafurable fpace ; and each of which is accompanied by feveral terrestrial globes, which it is defigned to illuminate. All the ftars being fo many funs, which can give light, animation,

and heat to other globes, is it probable that God. should have given them that faculty for no purpofe ? Would he have created ftars, whofe rays can pierce even to the earth, without having produced worlds alfo to enjoy their benign influence ? God, who hath peopled this earth, which is a mere fpeck, with fo many living creatures, would he have placed in the immense space fo many defert globes ? No certainly : Perhaps each of these fixed stars, which we see by miriads, has its worlds moving round it, for which it has been created. Perhaps thefe fpheres which we fee above us, ferve as abodes for different forts of creatures; and are peopled like our earth, with inhabitants who admire and praife the magnificence of the works of God. Perhaps from all these globes, as well as from ours, there rife continually towards the Creator prayer and hymns of praife and thankfgiving. It is true that thefe are only probable conjectures; yet to every true lover of God these conjectures must be most agreeable and most delightful. How fublime is this thought, that, exclusive of the fmall number of rational creatures which inhabit this globe, there are infinite numbers of them in those worlds which appear from hence to be but mere luminous fpecks ! Beyond this world. there is an immenfity, in comparison of which our globe, large as it is, must be reckoned as nothing. Souls without number exist there. All of them magnify the name of our great Creator; all are as happy as their defination admits; and perhaps as four to a better world.

Let us ftop here then, and reflect how great must be that Being who has created those immenfe globes ! who has regulated their courfe, and whofe mighty hand directs and fupports them! And what is the clod of earth which we inhabit, with the magnificent fcene which it prefents us, in comparison with the beauty of the firmament ? If this earth were annihilated, its abfence would be no more obferved than that of a grain of fand from the fea fhore. What are provinces and kingdoms in comparison with those worlds ? Nothing but atoms, which play in the air, and are feen in the funbeams. And what am I, when I reckon myfelf among this infinite number of God's creatures ? How am I loft in my own nothingness! But however little I appear in this, how great do I find myfelf in other refpects ! " How beautiful this ftarry firmament, which God has chosen for his throne ! What is more admirable than the celeftial bodies ! Their fplendor dazzles me; their beauty enchants

me. However, all beautiful as it is, and richly adorned, yet is this fky void of intelligence. It knows not its own beauty; whilft I, mere clay, which God has moulded with his hands, am endowed with fenfe and reafon." I can contemplate the beauty of those fhining orbs. Still more, I am already, to a certain degree, acquainted with their sublime Author; and I partly fee fome rays of his glory. I will endeavor to be more and more acquainted with his works, and make it my employment, till by a glorious change I rife above the ftarry regions.

G 2

the state of the s

and the second of the second of the

and a second in the

## CONTEMPLATIONS ON THE

SENTIMENTS WHICH THE CONTEMPLATION OF THE SKY EXCITES.

" The fpacious firmament on high, "With all the blue ethereal fky, "Spangled with flars, a fhining frame, "Their GREAT ORIGINAL Proclaim."

ADDISON.

WHO but a fpirit of unlimited intelligence and power, could have formed that fuperb vault over our heads? Who could have given motion to those immense globes; that perpetual motion of inexpreffible rapidity; a motion which even the fmalleft grain of fand could not have of itfelf ? Whence proceeds that connection, that beauty, and harmony, which fhine through every part of the whole ? Who prefcribed to those immense bodies, those laws which could not be discovered but by minds endowed with the greateft fagacity ? Self exifting, independent, and eternal Being ! it is to thee the celeftial bodies owe their existence, their laws, their arrangement, their power, and all the advantages which they procure to the earth.

What fublime ideas must rife in our fouls, when we think of these great objects ! If the heavens and all their hoft have fo much magnificence, beauty, and majefty, that the eye can never be fatisfied with contemplating, nor the mind with admiring them, what must be thy beauty THOU ETERNAL BEING, of whofe fplendor and glory thefe creatures are but faint and imperfect images ! What must be the incomprehenfible extent of thy knowledge and understanding, fince thou feeft with one glance the whole immenfe fpace, all the numberlefs bodies in it, and art fo intimately acquainted with the nature and properties of all the beings which thou haft placed there? What depths of wifdom and knowledge must be in thee, O LORD ! who hast formed fuch admirable plans ! how great muft thy power be, to be able to guide and direct, according to thy will, the most immense bodies ! to animate all by thy breath ! and to preferve all by thy almighty word !

ments made into a start store

### CONTEMPLATIONS ON THE

THE BLUE COLOR OF THE SKY.

"How clear the cloudlefs fky ! how deeply ting'd "With a peculiar blue !"

THOMPSON.

To judge merely by our fenses we might imagine the fky over our heads to be a great vault painted blue, and the ftars fo many little brilliant nails fluck in it. The reason of it is that our atmosphere is not quite transparent. If we were raifed very high above the furface of the earth, we should find that the air becomes more and more fubtile, till we could no longer breathe in it; and it would at laft end in pure æther. The higher we climb on mountains the lighter the atmosphere grows, and the darker the bright azure of the fky appears. If we could rife as high as pure æther, this color would be entirely loft. The fky would feem to us as black as at night; for all objects that do not transmit to us any rays of light appear fo.\* Confequently, if the air that furrounds us were as transparent as æther, the fky would not appear blue to us.

\* We are informed by travellers, who have been on the high Alps, that the fky looked as black as jet.

The blue color of the fky is occafioned by the difposition of the atmosphere to reflect towards the earth the blue rays of light more copiously than the rays of other colors. However pale and flight the blue rays of light may be, there falls fo great a quantity of them on our eyes, when we are in the open air, that the effect refulting from them is rather a dark blue.

Thefe reflections may make fome confider the fky differently from what they had done before. It may from hence be concluded that, even to the very color of the fky, there is no phenomenon in nature, in which we may not difcover order, utility, and a wife purpofe. As the color of green is most agreeable that the Creator could have chofen for the ornament of the earth, fo is the fine azure blue of the fky the beft calculated to charm the eye. How dreadful is the appearance of the fky when covered with ftormy clouds ! but what beauty, majefty, and fimplicity in the color of it. when the weather is calm and ferene ! The apartments of kings, decorated by the most skilful painters, are nothing when compared to the majeftic fimplicity of the celeftial vault. When the eye has for any time contemplated the beauties of the earth, it is fatiated and tired; but the more we contemplate the heavens the more charms we find in them.

## OF THE SUN.

Now Phœbus mounts triumphant in the fkies,
The clouds difperfe and gloomy horror flies :
Darknefs gives place to the victorious light,
And all around is gay and fair and bright."

LANSDOWN.

OF all the parts of the fyftem of the world the Sun is the most interesting to us. It is of a fpherical figure, and is composed of a luminous fubstance which feems to be inexhaustible. By means of good telescopes spots have been discovered on its furface, which by their motion, flow that it turns round its axis in about twenty five days, ten hours. The fun is about ninety five millions of miles diftant from the earth, and about 1,400,000 times as great as the earth, the circumference of which is about 25,000 miles. It illuminates twenty one opake globes called planets, which revole round it at different diftances, and in different periodic times : feven of these are called primary, and fourteen secondary planets.

The Sun was long fuppofed to be an immenfe globe of fire ; but Herfchel, who has paid great attention to his fpots, confiders that luminary as fimilar to the planets, and not a flaming orb. He calculates fome of its mountains to be two hundred leagues in height. According to this Aftronomer, the atmosphere of the fun is composed of different elastic fluids, some of which are luminous or phosphoric, others fimply tranfparent. The former give the fun the appearance of a mass of light or fire ; while the latter, being only transparent, fuffers his body to befeen: hence the maculæ or fpots. He alfo, farther, conceives the fun to be inhabited, as there is reafon from analogy, to fuppofe all the planets are.

It is afcertained that light employs about eight minutes in its paffage from the fun to the earth. This is an aftonifhing velocity; it is moving through a fpace of ninety five millions of miles in eight minutes, which is about a million of times fwifter than a cannon ball when it is first projected from the mouth of the piece; a rapidity too great for the imagination to follow, or the mind to comprehend. And yet, furprifing as fuch a motion appears, there may be ftars whofe light has not reached us fince the creation of the world.

Notwithftanding the vaft floods of light and heat which the fun has continued to fend forth every moment from its firft creation, it ftill remains undiminifhed, and as ftrong and diffusive as at the firft day. Well might the Prophet cry out "Great is the Lord who made it !" What must HE be who dwelleth in light inacceffible and full of glory, whose works are fo numerous, fo fplendid, and fo august !

#### PLANETARY SYSTEM.

---- " Seiz'd in thought, I mount,

" From the green borders of the peopled earth, " And the pale moon, her duteous fair attendant; "From folitary mars; from the vaft orb of jupiter; " To the dim verge, the fuburbs of the fystem, " Where cheerlefs faturn, midft his wat'ry moons, " Girt with a lucid zone, in gloomy pomp,

" Sits like an exil'd monarch."

MRS. BARBAULD.

103

By the Solar or Planetary System, is meant the order and difposition of the feveral heavenly bodies which revolve round the fun, as the centre of their motion, and receive from it their ight and heat. These celestial spheres confist of planets and comets. Under the denomination of planets are comprised Mercury, Venus, the Earth, Mars, Jupiter, Saturn, and Herschel.

By the motion of the dark fpots visible on the planets, we know that they revolve round their axes.\*

\* The axis of a planet is a line imagined (for the fake of pprehenfion) to be drawn through its centre, about which t revolves. The extremities of this line, terminating in oppolite points on the furface of the planet, are called its poles. hat which points towards the northern parts of the heavns is called the north pole; and the other, which points torards the fouthern part, is called the fouth pole.

1. The neareft planet to the fun is MERCURY which is in a manner loft in its rays, and therefore is feldom feen, and is the leaft known of all the planets. It is 36,387,583 miles diftant from the fun; and performs its annual revolution in eighty feven days, twenty three hours, fifteen minutes, and forty four feconds. It is 3,189miles in diameter; and in bulk thirty times inferior to our earth.

That all the planets are inhabited is, from analogy extremely probable; and though the heat of this muft be feven times greater than our *torrid zone*, the animals and vegetables are no doubt proportionably tempered by omnipotent wifdom to endure it.

11. VENUS is the next; which is called the morning flar when it rifes before, and the evening flar when it fets after the fun. Venus is 67,993,362 miles diftant from the fun; performs its annual revolution in two hundred and twenty four days, fixteen hours, forty nine minutes, and eleven feconds; a diurnal rotation in twenty three hours and twenty minutes; and is 7600 miles in diameter.

Being twice as remote from the fun as Mercury, the light and heat of Venus, though twice as

much as in our Earth, are about a fourth part lefs than in Mercury.

III. Next is the EARTH, which is 94,000,474 miles diftant from the fun : performs its annual revolution in three hundred and fixty five days, fix hours, nine minutes, and twelve feconds; its diurnal in twenty three hours, fifty fix minutes and four feconds; and is in diameter 7928 miles.

The earth is accompanied by a fecondary planet called the *moon*, which revoles round it in a particular orbit, and accompanies it in its annual revolution round the fun.

The path traverfed by the earth, which, in aftronomical language is called its orbit, appears to be that of the fun; and therefore, at any time to denote the fun's place in the heavens; aftronomers have divided the whole circle of the earth's motion into 360 equal parts, which they term degrees, and every thirty of thefe a fign, of which laft there are twelve. The orbit of the earth is alfo called the *ecliptic*; becaufe being the vifible path of the fun, all the eclipfes mult happen in it. And being oval or elliptical, the earth muft at fome times approach nearer to the fun than at others, and muft likewife, for the fame reafon, take more time in moving through one part of its path than another : confequently

the earth is longer in traverfing one half than the other of its orbit. The rotation is more rapid in the winter than in the fummer, by eight days : but although in winter we are nearer to the fun, yet in that feafon it feems fartheft from us, and the weather is more cold and inclement ; the reafon of which is that in fummer the rays of the fun fall directly upon us, in winter they are transmitted obliquely. It might be expected that as the fun is lefs diftant in winter than in fummer, it fhould appear to us larger ; but the difference of fituation is fo finall as to make no fenfible alteration in its apparent magnitude.

IV. The planet MARS is 143,227,582 miles diftant from the fun : performs its annual motion in fix hundred and eighty fix days, twenty three hours, thirty minutes, and thirty fix feconds ; and its diurnal motion in twenty four hours and forty minutes. It is in diameter 5105 miles.

Its days and nights are always nearly of the fame length, becaufe, its axis is nearly at right angles to the plane of its orbit. Its year is almost twice as long as ours, but with little variety of feasons. The quantity of light and heat which this planet receives from the fun is not half fo much as ours. Mars feems to have around it an atmosphere, as the earth has; which is argued from the fixed stars appearing obscure when they are seen just by its body.

This planet is diffinguished by a fiery red complexion; which proceeds either from the matter of which its globe is composed, or from a very thick atmosphere.

It is the only planet above venus that traverfes the heavens defititute of attendants.

When in opposition to the fun it is five times nearer to us than when in conjunction with it : hence it is that it appears fo much bigger at one time than another.

v. Next to mars rolls the great and aftonifhing orb of JUPITER; which is 471,974,585 miles diftant from the fun, and confequently its light and heat are about thirty two times lefs than ours. It performs its annual revolution in eleven years, three hundred and fourteen days, fourteen hours, and its diurnal rotation in nine hours, and fifty fix minutes. Its year is equal to almost twelve of ours; but without any confiderable change of feafons : yet the days and nights are computed to be only five hours in length.

This planet is fuperior in bulk to all the others united; being 92,414 miles in diameter, which exceeds the earth by a thoufand times.

H

Befides abundance of fpots which may be feen on the furface of Jupiter, it appears to be furrounded with feveral belts, or girdles, which are parallel to its equator and to one another; and are variable both in refpect to their breadth and their relative diftances. Sometimes they appear wider, fometimes narrower; fometimes they are nearer, and fometimes farther off from one another: their nature and ufe are hitherto undetermined.

Jupiter is enlightened by four moons, two on each fide; each of them confiderably larger than that with which we are fupplied.

vi. The planet SATURN is 896,705,301 miles diftant from the fun : performs its annual revolution in ten thousand feven hundred and fifty nine days, one hour, fifty one minutes, and eleven feconds; and its diurnal rotation in ten hours and fixteen minutes. It is 78,236 miles in diameter.

This planet is remarkable for the prodigious circle that furrounds it, commonly termed its ring; the diftance of which from the body of faturn is computed to be 21,000 miles, and its breadth 29,000. The component materials of this ring are unknown; but it is fuppofed by fome means to fupply light and heat to the plan-[ et. Saturn is attended by five moons, of which

109

the neareft is 82,000 miles diftant, and the moft remote 1,964,000 miles. The year in faturn is about twenty nine and an half of our computation. But the length of its days and nights is not afcertained, becaufe the great diftance of the planet has eluded every endeavor to difcover whether it revolves round its axis.

VII. The feventh, and laft, primary planet is HERSCHEL, (fo named from the gentleman who firft difcovered it on the 13th of March, 1781.) It is 1,783,698,244 miles diftant from the fun : performs its annual revolution in eighty three years, one hundred and fifty days, and eighteen hours. Its diameter is about 33,954 miles, and confequently it is about eighty times as big as the earth.

The light of this planet is of a bluifh white color, and in brilliancy between that of the moon and venus.

To a good eye, unaffifted by a telescope, this new planet appears like a ftar of the fifth magnitude. On account of the immense distance of Herschel from the source of light and heat to all the bodies in our system, it was highly probable that it was attended by fatellites or moons, and accordingly the high powers of the discoverer's telescopes have enabled him to distinguish feveral.

#### OF THE MOON.

" The moon's full eye Opes through a cloud, and looks around the fky."

THE MOON, next to the fun, is, of all the celeftial bodies, that which has the moft falutary influence upon our globe; and, if it were not in itfelf an object worth our attention, it would become fo at leaft by the great advantages which we derive from it.

Even with the naked eye we can difcover feveral phenomena of the moon. It is a round opaque body, and thines only by reflecting the light of the fun, therefore whilft that half of it which is towards the fun is enlightened, the other half muft be dark and invifible. Hence, it difappears when it comes between us and the fun, becaufe its dark fide is then towards us. When it is gone a little way forward we fee a little of its enlightened fide, which ftill increafes to our view, as it advances, until the moon comes to be oppofite to the fun, and then its whole enlightened fide is towards the earth, and it appears with a round illuminated orb, which we call the full moon ; its dark fide being then turned away from the earth. From the full, it feems to decreafe gradually, as it goes through the other half of its courfe, fhowing us lefs and lefs of its enlightened fide every day, till its next change, or conjunction with the fun, and then it difappears as before.

But what the naked eye may observe in the moon is not to be compared to what we difcover by the affiftance of telescopes and calculations. How much are we obliged to those enlightened men, who, to extend our knowledge, and to render the glory of our Creator more and more manifest in the eyes of mankind, have made inquiries and difcoveries which enable us to form the higheft notions of the celeftial bodies ? By means of their laborious observations we now know that the moon, which appears to the naked eve fo fmall, is, neverthelefs, confiderable, with relation to the earth. Its diameter is two thoufand three hundred and twenty-fix miles, its proportionable fize as one is to forty-nine, and though the moon is nearer to us than any other planet, it is two hundred and forty thousand miles diftant from this earth.

There are feveral fpots in the moon visible to the naked eye. Some of these spots are pale and

H 2

dark ; others are more or lefs luminous, according to the light which they reflect. The bright fpots are probably high mountains, which reflect the light of the fun from their tops; and the dark fpots are probably vallies into which the fhadows of the mountains fall. These discoveries, to which no folid objection can be made, prove that the moon is not fo inconfiderable a body as ignorant people imagine. The fize, the diftance, and all that we know of it, give us, on the contrary, a new proof of the unlimited power and wifdom of our Creator. But was a planet fo large as the moon defigned for no other purpofe than to light our globe for fome nights? That body, which to all appearance refembles our earth, and feems proper for the fame ends, was it created only to produce the flux and reflux of our feas, and for fome advantages to our globe with which we are ftill unacquainted ? Is it probable that a furface of fome millions of leagues fhould be without any living creatures ? Would the fupreme Being have left that immenfe fpace an empty defert ? It would be inconfistent with the wifdom and goodness of God. Let us rather believe that God has established his empire in that planet, as well as amongft us. Without doubt there are inhabitants upon it, who adore

with us the fame Lord and Father, who are, like us, the objects of his providential care, and for whole happinels God provides with the fame goodnefs as he does for ours. But as our knowledge in this refpect is ftill very imperfect, let us confine ourfelves to the advantages which accrue to us from the moon. The goodness of Providence towards man manifefts itfelf very fenfibly in this cafe. The moon is placed near us that it alone may shed more light upon our earth than all the fixed ftars together. We derive from it, not only an agreeable object, but a thousand conveniences and advantages. In what diforder and confusion should we be, in regard to the division and measure of time, were it not for the regularity with which the changes of the moon fucceed one another ? The calculations of Aftronomy, and the use of almanacks, are owing to the obfervations made on the course of the moon.

Almighty God ! I adore by the light of the moon, as by that of the fun, thy wifdom and goodnefs. The more I contemplate the heavens, which thou haft formed, the more I am filled with wonder and admiration !

ECLIPSES OF THE SUN AND MOON.

"In dim eclipfe difaft'rous twilight fheds On half the nations."

MILTON.

AN eclipfe of the fun is an effect entirely natural. It is caufed by the moon's shadow falling upon the earth.' But it can only take place when the moon, which is an opaque body, and dark in itfelf, comes nearly in a direct line between the fun and the earth. It then conceals from us part or the whole of that globe. The former is called a partial eclipfe, the latter a total eclipfe. Thus, the folar eclipfe is nothing more than the fituation of the earth when the moon's shadow falls upon it. We must not imagine that the fun is at that time really darkened : it is only concealed from us. It retains its ufual fplendor; and all the difference is, that the rays which iffue from it cannot reach us, becaufe the moon is placed between the fun and our globe. This is the reafon that a folar eclipfe is never visible at the fame time in all parts of our earth ; it is greater in one country than in another, and, in fome places, it is not feen at all.

Not only the moon fometimes darkens our earth, but the latter alfo cafts its fhade upon the moon, and by these means intercepts the rays of the fun from it, either wholly, or in part, and this is called an eclipfe of the moon : but it can only take place when the moon is at one fide of the earth and the fun at the oppofite fide, and confequently when it is full moon. As that planet is really darkened by the fhadow of the earth, the eclipfe is perceived at the fame time on all the points of an hemifphere of our globe. Some people may perhaps afk, of what use are the eclipfes of the fun and moon? To those who do not calculate the utility of natural things merely from the immediate advantages which they derive from them, the eclipfes are of important use. It is by their means that the true pofition and diftance of towns and countries are known, and that we have been able to trace accurate maps of the remoteft countries. Eclipfes. if well obferved, ferve alfo to confirm chronology, and to direct the navigator, by fhewing him how far he is from the eaft or weft.

• Thefe advantages however unimportant they may appear, are neverthelefs, truly effential; and without them we fhould be deprived of a part of our happinefs.

### COMETS.\*

- " Thy hand to Comets mark'd the eccentric track " Throughout the vaft illimitable void ;
- " Affign'd their periods, check'd their dire career,
- "While atheifts learn to tremble and adore."

COMETS are a large and numerous clafs of planets that perform their revolutions round the fun in figures extremely elliptical, fometimes approaching it much nearer than the orbit of mercury, at other times proceeding far beyond that of faturn, confequently at fome periods they poffefs vaftly more light and heat than the neareft planets to the fun, and at others, are proportionably more cold and dark than the moft remote.

Yet notwithftanding their prodigious eccentricity, and their power to fuftain without injury, the most violent extremes of heat and cold, they are by no means fuch large bodies as thefe

\* Principally extracted from "The young Gentleman and Lady's Magazine," Vol. 2. page 274.

Thofe who would examine this fubject, will obtain the moft complete information from a very ingenious " Effay on Comets" by Andrew Oliver, jun. Esq. of Salem, Maffachufetts.

II7

circumftances, and their portentous appearance in the heavens, would perfuade us : It is their tail that creates the idea of their vaft magnitude. The bulk of the largeft comet is not fuppofed to be much greater than the moon, and it is calculated that fome of them are fmaller.

Of thefe irregular and aftonifhing bodies, forty or fifty have been obferved by aftronomers in various periods of the world, all perpetually moving through millions of miles in infinite fpace, and appearing at uncertain times to the inhabitants of the earth ; and it is at leaft very poffible that there may be many more exifting in our fyftem which perform their vaft and inconceivable revolutions, vifible by other parts of the creation, though not by us.

Comets confift of a folid and opaque fubftance, as they have been difcovered to fhine only by the reflection of the fun, like the other planets. They are likewife of a much greater denfity than the earth; for fome of them are heated in every period when they approximate the fun to fuch a degree as would vitrify or diffipate any fubftance known to us. Sir Ifaac Newton computed the heat of the comet which appeared in 1680, to be, when neareft the fun, 2000, times hotter than red hot iron; and that, being

thus heated, it would retain its heat until it appeared again to us, although the diftance of the time fhould be 20,000 years, whereas its computed period is only 575 years.

It was then 167 times nearer than the earth, and 65 times nearer than mercury to the fun. The light and heat, therefore, of the comet at that time muft have been at leaft 4000 times fuperior to those of mercury, and no less than 28,000 times greater than in our torrid zone.

Leaving this contiguous fituation, it took its courfe to the diftance of 11,200 millions of miles from the fun; which is at leaft fourteen times farther from it than the orbit of the moft remote planet faturn; confequently the light and heat of the comet at this time were nearly 200 times lefs than at faturn, and above 17,000 times lefs than with us. Thus the light and heat of faturn were much more intenfe, compared with the comet, than ours are, compared with faturn.

The tail of a comet which has vulgarly received that denomination, becaufe it follows the body as an appendage to it, is fuppofed to be the redundant heat it receives in its approach to the fun, emitted from the atmosphere of the comet.\*

\* Judge Oliver in his Effay on Comets has proved that "the *tails* of Comets are nothing more than expansions of Of all the comets, the periods only of three are known with any degree of certainty. The first of these appeared in the years 1531, 1607, 1682, 1758, and will appear every 75th year. The second of them appeared in 1532, 1661, and 1789, and may be expected every 129th year. The third, having appeared last in 1680, and its period being 575 years, cannot return till the year 2225.

Of what terrible confequence thefe flupendous phenomena might be to this, and moft probably to other planets, without the providence of the Creator, may be conceived from this circumftance. Several comets have approached very near to the orbit of the earth, particularly that in 1680; which on Nov. 11, at one o'clock in the afternoon, was at fo fmall a diftance, that had the earth been about that part of its orbit, the whole planet and all its inhabitants, would have been confumed by fire. The exceffive heat might probably have converted the matter of the prefent earth into a different

their atmospheres, &c." 9, v. page 68; and his reasoning is to fhew that "in confequence of these curious appendages comets may be *inhabited worlds*, and even comfortable habitations; notwithstanding the vast eccentricities of their orbits."

kind of fubstance, and have rendered it an habitation adapted to beings of a nature totally different from us.

But, although fuch an event is poffible in nature, yet certain circumftances reft it on a mere and very unlikely chance whether it will ever happen in any definite time; for the planes of all the cometary orbits are raifed above those of the planets, fo that there is but one particular place in the orbit of a comet where its tail can pass over the orbits of the planets; and it is fo many chances to one that a planet should be in this part of its orbit at that particular time, that there is but little reason to fear such a cataftrophe.

The aftonifhing courfes that the comets perform in empty fpace, and particularly that of 1680 (which in the part of its orbit neareft the fun flies with the amazing fwiftnefs of 880,000 miles in an hour) fuggefts to our minds an idea of the vaft diftance between the fun and the neareft fixed ftars; of whofe attractions all the comets muft keep clear, in order to return periodically and move round the fun : and it likewife demonstrates that the neareft fixed ftars, which probably are those that feem the largeft are as big as our fun, and of the fame nature

with it; otherwife they could not appear fo bright and large to us at fo immenfe a diftance.

"The diurnal motions of the planets are performed nearly in the fame directions with their annual; both motions, in all as far as they have been discovered, being direct, or from west to east : whereas the diurnal motions of comets are performed contrary to this rule. Planets and comets differ also in other particulars. The annual motions of the former are all direct, and are apparently confined within the limits of the zodiac, the latter move indifferently in all directions through the heavens. The periodical revolutions of the former are made in orbits nearly circular, those of the latter are prodigiously eccentric, and nearly parabolical. All which feem wifely to be ordered, that a multitude of worlds may exift at the fame time, and be enlightened, warmed, and rendered prolific by the rays of the fame fun, without interfering in their motions, or difturbing the harmony of the fyftem."\*

"Thefe exotic ftars ferve to raife in our minds moft fublime conceptions of GoD, and particularly difplay his exquifite fkill. The motions of many comets being contrary to those of the planets, fhew that neither of them proceed from

\* Judge OLIVER's Effay on Comets, page 81.

neceffity or fate, but from choice and defign. The fame thing is to be feen in the figure and fituation of their orbits ; which indeed have not the appearance of regularity, as those of the planets, and yet are the refult of admirable contrivance. By means of their great eccentricity, they run fo fwiftly through the planetary regions as to have but very little time to difturb their own motions, or those of the planets. And this end is still more effectually answeved in those comets whose motion is retrograde, or contrary to that of the planets. In this cafe, the relative velocity wherewith the comet and planet run by each other is the fum, but, when comets move the fame way as the planets, it is the difference, of their real velocities. By this great eccentricity, likewife, as well as by the very different fituation of their planes, they are at vaft diftances from each other in their aphelia ; where their motions are fo flow and their gravitation to the fun fo weak, that their mutual gravitation might produce irregularities, and perhaps throw the fystem into confusion; which this precaution has guarded againft."\*

That the comets are inhabited by rational beings, or, indeed that it is poffible for creatures

\* Profeffor WINTHROP's lectures on Comets, p. 49.

fuch as we can conceive to exift in them, feems, on the first confideration, to be a position the least likely to be advanced or admitted. But when we reflect on the infinite power and goodnefs of the Deity, the latter inclining, the former enabling him to make creatures fuited to all states and circumstances; that matter exists only for the fake of intelligent beings; and that wherever we find it we always perceive it pregnant with life, or fubfervient to that purpofe; when we confider the numberlefs fpecies, the aftonishing diverfity of animals in earth, air, water, and even on other animals ; every blade of grafs, every tender leaf, every natural fluid, fwarming with life, and every one of thefe enjoying fuch gratifications as the nature and flate of each require ; when we farther reflect that fome centuries ago a great part of the carth was judged uninhabitable, till experience undeceived us ; the torrid zone, on account of its exceffive heat ; and both the frigid zones by reafon of their extreme cold ; it feems highly probable that fuch numerous and large maffes of durable matter as the comets are not (however diffimilar to our earth) deftitute of beings capable of contemplating with wonder and acknowledging with

gratitude the wifdom, fymmetry, and beauty of the creation, which is more plainly to be obferved in their extensive tour through the heavens, than in our confined circuit. Yet however difficult it may be for us, circumstanced as we are, to difcover their particular defignation, this is an undoubted truth, that wherever the Deity exerts his power, there also he manifest his wisdom and his goodness.

It may not be unentertaining to the curious reader to perufe a very remarkable paffage tranflated from a work remaining of the heathen philofopher Seneca, on this moft interefting fubject, efpecially as it clofes with a remark that, by the event, appears to have been written in a prophetic fpirit.

"I cannot," fays this ancient and celebrated fage, "affent to our philofophers in thinking that the comets are fires fuddenly kindled, which appear for a time, and are then extinguifhed, on the contrary, I efteem them among the eternal works of nature. And why fhould we wonder that comets, which are fo rare a fpectacle in the world, are not yet reftricted by certain laws ? and that the times of their appearing and difappearing are unknown, confidering the courfes they take through fuch prodigious intervals of

fpace? The time will come when the diligence of a future age fhall difcover those things which are now concealed. The day shall arrive in which posterity will be surprised that we were ignorant of matters, that to themselves are rendered so intelligible. A person shall arise who will demonstrate into what region the comets wander, why they move so separately from the rest of the planets, and what is their nature and magnitude."\* This person was Sir ISAAC NEWTON ! After many centuries elapsed with little infight gained into the true constitution of these bodies, and none at all into their real motions, this great genius arose, and with a strength of mind peculiar to himself

" Purfued the comets where they farthest run,

" And brought them back obsequious to the fun,"

as POPE has happily expressed it. Formed to penetrate into the most abstructive recession of nature, he traced these unknown travellers through every step of their long journey, delineated the particular tour they make, and shewed by what fecret influence they are determined to revisit our planetary regions, after an absence of scores, or rather centuries of years.

\* SENECA Natural. Queft. lib. vii. Cap. xxvi.

To imagine that the appearing of a comet is ominous, and that it forebodes fome approaching calamity to any part of the earth, is a fuperflitious conceit, without any foundation in reafon; and it feems to be condemned in Scripture. Jeremiah x. 2. "Thus faith the Lord, learn not the way of the heathen, and be not difinayed at the figns of the heavens; for the heathen are difinayed at them."



#### OF THE MILKY WAY.

" A broad and ample road, whofe duft is gold " And pavement flars, as flars to thee appear, " Seen in the Galaxy, that milky way, " Which nightly, as a circling zone thou feeft " Powder'd with flars."

MILTON.

WHEN we examine the fky at night we perceive a pale and irregular light over our heads. Numerous ftars, the rays of which, by their confufion, form this luminous tract; which is commonly called the galaxy or milky way. They are too far from us to be perceived feparately by the naked eye; and even between those which are visible through a glass there are fpaces difcoverable, which, to all appearance, are filled with an immense quantity of other ftars, which even the telescope cannot make visible.

The ftars which we fee in the milky way appear to us no more than fhining fpecks; although they are much larger than the globe of the earth. Whatever inftrument we make ufe of, they ftill appear as finall as before. If an inhabitant of our globe could travel in the air, and could attain the height of 190 millions of miles,

the magnitude of those luminous bodies would not appear fensibly increased. However incredible this may seem, it is not a chimerical idea, but is a fact which has actually been proved; for about the twenty first of December we are more than 190 millions of miles nearer the northern part of the sky than we shall be about the twenty first of June; and, notwithstanding we do not perceive any difference of fize in those stars. This milky way, so inconsiderable in comparison of the whole space of the heavens, is sufficient to prove the greatness of the sus the wisdom and goodness of God.

What are those ftars in comparison of the immense number of globes and worlds which roll in the firmament ! A late ingenious astronomer, by help of a telescope of remarkable power, has discovered beyond conjecture this account of the milky way, and fays, "That even our fun, and in confequence our whole folar fystem, forms but a part of the radiant circle. Many small specks in the heavens, unseen by mortal eye, he discovers to consist of myriads of stars; being, as he supposes, entire systems of themselves." Here reason stops and is consounded : To admire and adore is all that remains for us to do.

### PLURALITY OF WORLDS,

" The ftars, which grace the high expansion, bright
" By their own beams and unprecarious light,
" Though fome near neighbors feem, and fome difplay
" United luftre in the milky way,
" At a vaft diffance from each other lie
" Sever'd by fpacious voids of liquid fky.
" All thefe illuftrious worlds, and many more
" Which by the tube aftronomers explore,
" And millions which the glafs can ne'er defcry
" Loft in the wilds of vaft immenfity,
" Are funs, are centres, whofe fuperior fway
" Planets of various magnitude obey."

BLACKMORE,

IT is not through ignorance alone, but alfo through felf love and pride, that we give the name of wORLD only to one of the leaft parts of the univerfe; perfuading ourfelves that our globe alone is inhabited; that the fun was made merely to communicate to us its light and heat, and that the moon and ftars have no other deftination than that of lighting our nights, and fhewing the traveller his way. The contemplation of the fixed ftars is fufficient to contradict this ridiculous opinion. It is probable, that thofe celeftial bodies, are not luminous fpecks, but great funs. If their defination were only

to ferve as nocturnal lights to us, they would be of no fervice the greatest part of the year. The frequent cloudy skies, and the nights that are light from other caufes, would make them ufelefs. Those ftars also, which the naked eye cannot difcover, from their great diftance, would be abfolutely of no use; and the purpose ascribed to them would be better fupplied by one fingle. ftar nearer to us, than by fo many millions at that diftance. As the fame reafoning may be applied to every use which the stars are of to us, either in navigation or any thing elfe, it must be allowed, that we could not poffibly account for the defign of those numerous funs, if no creatures except those of our own globe profited by their light and heat, or unlefs they themfelves ferved as habitations for different beings. This conclusion will appear still more natural, if we reflect attentively on our folar fystem. We have already obferved that the moon in fome things refembles this earth. That there, as well as here, mountains and vallies are to be feen. Such affinities as these authorife us to admit others, and to fuppofe alfo in the moon, rivers, feas, minerals, plants, animals, and rational creatures. The analogy between the moon and the reft of the planets lead us to form the fame conjectures of them. As the fixed ftars fhine by their own light, and not by reflecting the light of our fun,

we with reafon conclude that they are each of them of the fame nature with our central body : which being admitted, we naturally infer that they give light and life to other fyftems of planets, as our fun does to its circumfluent worlds.

Thus we behold round us an innumerable multitude of worlds, each of which has its peculiar laws, arrangement, productions, and inhabitants.

How numerous are the works of God ! How glorious the ftarry fky ! How great our Creator ! Millions of worlds declare his glory, and the intelligent beings which they contain acknowledge and adore their Maker. How forcibly does this incline us to join with the heavenly choir in finging his praife, that it may refound over all the univerfe ! How happy the profpect that opens to us of that future state, wherein we shall be acquainted with thefe worlds, and able to comprehend the wonders of them ! How great will be our aftonishment in discovering objects quite new to us, or at leaft very imperfectly known ! In what fplendor will the divine perfections appear, the power of which extends over a multitude of worlds, while fome falfely imagine it reaches only to the little globe which we inhabit ! What endless fubjects for glorifying the Creator and Ruler of all thefe worlds !

DISCOVERIES MADE BY THE MICROSCOPE.

" Apply the fight invigorating lens " And mark the fportful living myriads, " Elfe unobferv'd in viewlefs littlenefs."

" Even the blue down the purple plum furrounds,
" A living world, thy failing fight confounds,
" a peopled habitation flows,
" Where millions tafte the bounty gop befrows."

BOYSE.

NATURE is in fmall objects what the is in great ones. There is no lefs order and harmony in the conftruction of the mite than in that of the elephant. The only difference is that the weaknefs of our fight prevents us from penetrating into the nature and organization of fmall bodies, which often efcape our eyes, and which we can perceive only by the affiftance of glaffes. Microfcopes have made us acquainted with a new world of vegetables and animals. They teach us that objects which the naked eye cannot difcover, have extent, parts, and form. Let us mention fome examples of it, to lead us to praife God, whofe glory manifests itself fo wonderfully in fmall objects. Every grain of fand appears round when we examine it with our eyes only, but by the affiftance of a glafs we may obferve that every grain is different both in fize and shape. Some are perfectly round, others square, others conical, but mostly irregular. And what is ftill more aftonishing is, that by means of a microfcope, which makes objects appear many times larger than they are, we may difcover, in the grains of fand, a new animal world : For it has been found, that their cavities contain infects. In cheefe, there are little worms called mites, which to the naked eye appear mere dots, whilft, with a microfcope, they are proved to be infects of a fingular figure. They have not only eyes, mouth, and feet, but a transparent body furnished with long hair in the form of prickles.

As for the vegetable kingdom it is found in the mouldy fubftance which ufually flicks to damp bodies. It prefents a thick foreft of trees and plants, where the branches, leaves, flowers, and fruit can be clearly diffinguifhed. The flowers have long, white, transparent flaks. The bud, before it opens, is but a little green ball; and it does not become white till it has blown. You would as little expect to find thefe

objects in mouldy fubftances, as that the meal which covers the wings of the butterfly fhould be a bunch of little feathers; if the truth of it had not been proved by the microfcope. But we have no occafion to carry our refearches to remote objects. Let us limit them to what relates to ourfelves. Examine with a microfcope the furface of your fkin, and you will find that it refembles the fealy fkin of a fifth. It has been computed that a grain of fand could cover 250 of thefe feales, and that one only of thefe feales covers 500 pores, and confequently that a fpace equal to a grain of fand contains 125,200 pores.

Thus we fee how great our Creator is, even in things which ignorance and prejudice make us confider as trifles. What an immenfe number of creatures he has fpread over the earth ! How many objects in nature are concealed from us ! We already know above thirty thoufand plants, and of infects a vaft number of fpecies. But what is that in comparison of the whole ? If the bottom of the fea, and of rivers, could be open to our fight ; if we could transport ourfelves to other planets ; how would our aftonishment increase at the immenfe number of God's creatures ! How wonderfully we experience that he has difplayed as much wifdom in the moft

minute objects as in the greateft ! Even the fmalleft bodies are as complete and regular, as those prodigious ones, whose circumference is calculated by millions. The Creator provides with the same goodness for the wants of the infect which crawls in the dust, as for those of the whale which appears like an island in the midst of the waves. Let us imitate in this the example of the Deity. Let the least of creatures feel our benevolence, fince our common Author vouchsafes to preferve their existence.

the part of the second se

and the second sec

SEVERAL USES OF FIRE.

"That gracious Power who kindled up the Sun "To give us light and heat from loftier fpheres, "Has favor'd us with *elemental fire* "Subfervient to our ufe and welfare too."

**F**<sub>IRE</sub> is, in fome degree, the univerfal inftrument of all the arts and all the neceffaries of life. In order that man fhould make continual use of this element, the Creator has caused it to mix in the air, the earth, the water, and all natural fubftances.

How very ufeful is all the combuftible matter which fupplies us with fuel! Without a fufficient provision of it we fhould not only lofe the greateft advantages, but we fhould be exposed to the greateft inconveniencies.

In winter were it not for the fire which lights us, a great part of our time would pass in the most uncomfortable darkness. Deprived of that artificial light, our most agreeable amusements, our pleasing studies, and necessary toils, would cease at funset. We should be obliged to remain motionless, or elfe to wander in darkness,

with horror, in the midft of a thoufand dangers. How dreary our ftate would be, if in the long winter evenings we could neither enjoy the pleafures of fociety, nor make ufe of the refources of reading, writing, and working ! Confider how unwholefome the greateft part of the food which the earth produces would be, and how little nourifhment there would be in it, if by means of fire it were not diffolved, foftened, and prepared to a certain degree.

And how fhould we be able to provide fo many other neceffaries and conveniencies of life, if the workmen and artifts did not procure them. for us with the help of fire ? Without that element we should not be able to melt metals, to make them malliable, to refine them; to change fand into glafs; or to give to lime the confiftence of stone. Without fire nature and all its treafures would become ufelefs, and would lofe in our eyes most of their charms. But let us limit ourfelves to the advantages which we derive from it during the months of winter. What comfort do we find in a room warmed by it, fo as to guard us from the impreffion of the outward air ! Benummed by the cold we fhould be difenabled from labor and difinclined to exertion, at leaft expofed to a thousand difagreeable fensations, if the

fire did not convey to us a certain activity. How many old and fickly people would fuffer doubly; were it not for its benign influence ? What would become of the weak infant, if its delicate limbs were not ftrengthened by a gentle heat? Oh ! unhappy people, who fuffer all the rigor of the cold feafon, and are ready to facrifice a portion of the bread which is left you, in order to get fuel to warm your trembling limbs. I pity you from the bottom of my heart. Your fituation reminds me of a part of my happinefs, to which I have hitherto given but little attention, and impofes on me more ftrongly the obligation of gratitude for the advantages which I derive from the heat of fire. It imposes on me also the duty of giving part of my abundance to relieve others from those evils, from which I myself am exempt. O my God, my Creator and Benefactor, deign to look upon me ! See my heart expand in praifes and thankfgivings. It is to thy fatherly care that I owe all the advantages, all the pleafures which fire enables me to enjoy.

#### WORKS OF NATURE.

MYSTERIES OF NATURE.

" To man's fhort reach of mind and fcanty powers,

" How much is dubious in the things he fees,

" How much eludes his fight !"----

WHEN we attempt to inveftigate things, and to penetrate into the caufes of effects daily under our obfervation, we are forced to acknowledge how limited our underftandings are. A thoufand things in nature lie beyond our reach, and elude our comprehension; while those which we can explain, have still many properties for which we cannot account.

We hear the wind blow; we experience its great, its different effects : but we know not exactly what produces it, what increases or what abates its violence.

From a fmall feed put into the ground, and which appears there to rot and be wholly deftroyed, we behold grafs fpring up, ftalks and ears of corn; but we are ignorant how that is done. We ftill lefs can comprehend how from a little fruit ftone there grows a plant, and then a great tree, which is covered with leaves and bloffoms  $\kappa$ 

to pleafe us, which a \_\_\_\_\_\_ fruit for our nourifhment or wood for our convenience.

All the food which we take, and which is fo various in its kinds and fo different in its nature, is transformed within us by an incomprehensible process, mixes with our blood and fleth, and, by means we cannot explain, becomes a part of our bodily frame and effential to its growth and health and existence.

We find that the eye fees the images painted on the retina, and that the ear has a perception of the vibration of the air; but how it is effected, and indeed for all the perception through the medium of the fenfes we know not how to account.

We are confcious of the exiftence of a foul in our body; but who can explain the union of foul and body, and their mutual influence on each other ?

The effects of fire and air are continually before us : but what is their nature, what their integral parts, and how do all their different effects take place ?

The wonderful properties of the loadstone, the fingular effects of electricity, the theory of the thunder and lightning, the occasion of the aurora borealis, and in a word many of the phe-

#### WORKS OF NATURE.

nomena, are beyond the fphere of our comprehenfion.

The mysteries of nature afford us leffons of wifdom. They check prefumption, infpire diffidence and modefty.

Concerning those things which are hidden in obscurity and removed far from us, so that we cannot discover them at all, or can apprehend them only in a confused or superficial way; and concerning those that we have neither means to investigate nor faculties to comprehend; curiofity should be suppressed, and we should confent to be ignorant.

Let us learn to fuit our defires of knowledge to our condition, and neither feek what we have not power to attain, nor fancy ourfelves knowing where we are ignorant, nor be contentious an pofitive about things which we do not underftand.



## PART II.

ON THE

## SEASONS OF THE YEAR.

MEDITATION ON THE FIRST DAY OF THE YEAR.

----- " See the new born year, all gaily dreft " In radiant robes of novelty and hope, " Has feiz'd, with afpect bland, the car of time."

I REPRESENT to myfelf this firft day of the year as if it were the firft day of my life; and, from the goodnefs of God, I prefume to hope for bleffings this year equal to thofe that have been granted me on former ones. What may I not hope for from my heavenly Father, who from the firft moment of my exiftence provided for me with fo much tendernefs and goodnefs? In my parents he gave me friends, who, from my very birth, fupported and brought me up, and whofe difinterefted affection protected me in the weak and helplefs ftate of infancy. Without K 2

fuch care how could I have been preferved-to enjoy the many bleffings which I now poffers?

I enter with the prefent day into a new period of life, not fo much unprovided for, nor fo helplefs, as when I firft came into the world; but with equal occafion for affiftance in many refpects as I then experienced. I require friends to fhed fweets upon my life, to fupport my fpirits when oppreffed with grief, and to warn me of dangers into which I might otherwife fall. And will not my heavenly Father grant me this beft of bleffings?

With this first day of the year my lot is as it were fettled over again. The Lord, who gave me being, takes in at one glance (which nothing can deceive) each week, each day, each instant of this year. All indeed that relates to me is hidden from *me*; but all things are visible to God, and all are fettled according to his decrees, which are full of wisdom and goodness. If in the course of the year I experience any missortune, which I could not forese; if any unforefeen happiness fall to my lot; if I have any loss to bear, which I could not expect; all will work together for my good.

Full of this conviction I begin the new year. Let what will happen I shall be more and more

confirmed in the perfuafion that God will be my preferver still, as he has all along been. If I find myfelf expofed to poverty and diftrefs, I will remember the days of my infancy, that more critical state, in which he protected me. If I meet with ingratitude from a friend, even that ought not to make me unhappy. God can raife me up other friends, in whofe tendernefs I may enjoy delight and comfort. If days full of dangers, and perfecution be my lot, even thefe ought not to terrify me. I should put my trust in that power which protected my childhood, when it was exposed to a thousand dangers. What then can prevent my beginning this year with a tranquil mind ? I look forward without anxiety, and leave my fate to the guidance of Providence.

EQUAL DISTRIBUTION OF THE SEASONS.

"There is, who deems all climes, all feafons fair; "There is, who knows no reftlefs paffion's ftrife; "Contentment, fmiling at each idle care; "Contentment, thankful for the gift of life !"

SCOTT OF AMWELL.

WHILE the fun is far from us, and the fevere cold binds and fhuts up our earth, there are fome countries where the inhabitants enjoy all the beauties of Spring ; others, where they are gathering rich harvefts; and others, where Autumn fills their granaries with fruit. Thus has the divine wifdom regulated the change of feafons, and diftributed the fame favors to all his creatures at different times. His impartial love extends to every being which he has made. It is fufficient that they are in want of his bleffings; he takes pleafure in granting them. His beneficent views extend over the deferts of Arabia with as much goodnefs as over the fmiling countries of Europe; and his government is the fame from pole to pole. But, fince God diftributes the bleffings of this life with an equal hand, why are fome countries deprived of the pleafures of Spring, while others enjoy them in fuch abun-

dance ? Why are the rays of the fun fo partially fpread that in fome climates there is darknefs, and in others light, for whole months together ? Why are not the frozen countries near the pole as beautiful and fertile as our plains and valleys ?---What art thou, O man, who dareft to afk fuch queftions ? What right haft thou to demand an account of the infinitely wife Being of the manner in which he rules the world ? Vain mortal, learn to be humble, and to acknowledge traces of a fovereign wifdom in the very things wherein thy weak understanding imagines there are defects. God has given to each country what was neceffary to the life, fupport, and content of his creatures. All is planned according to the climate which they inhabit ; and Providence has, every where, wifely provided for their prefervation and fupport.

Lord ! The earth is full of thy mercies. Thy goodnefs is fpread over all the heavens, and extends to the very clouds. What country is there that has not experienced its effects ! What province, throughout thy immenfe empire, is there, in which the traces of thy beneficence may not be feen ! Great and admirable are the order and beauty of the vifible creation !--O Lord how manifold are thy works ! in wifdom haft thou made them all !

CHANGES OF THE SEASONS.

Wiew how in courfe the conftant Seafons rife,
Deform the earth or beautify the fkies :
Firft, SPRING advancing, with her flowery train ;
Next, SUMMER's hand that fpreads the fylvan fcene ;
Then AUTUMN, with her yellow harvefts crown'd;
And trembling WINTER, clofe the annual round."

In the warmest climates, as well as in the coldeft there are but two feafons in the year really different. In the coldeft, Summer lafts about four months; and the Winter about eight. Spring and Autumn are fcarcely perceptible there ; becaufe in a few days heat fucceeds cold ; and, on the contrary, heat is foon followed by fevere cold. The hotteft countries have a dry and burning feafon for feven or eight months. Afterwards comes rain, which lafts four or five months; and this rainy feafon makes the difference between Summer and Winter. It is only in temperate climates that there are four feafons in the year really diftinct. The Summer heats gradually decreafe, fo that the autumnal fruits have time to ripen by degrees, without being

hurt by the cold of Winter. In the fame manner in Spring the plants have time to fhoot, and grow infenfibly, without being deftroyed by late frofts, or too much haftened by early heats. In Europe these four seafons are most perceptible ; and particularly in Italy, and in the fouth of France. By degrees, as we advance towards the north, or towards the fouth, the Spring and Autumn are lefs marked. From the middle of May to the end of June it rains lefs frequently ; after which the violent rains return, and continue to the end of July. In February and April the weather is very uncertain. If the melted fnow and rains remained on the ground, the water would annually rife to the height of a foot and three quarters in most countries.

This change of feafons deferves our admiration. It cannot be attributed to chance; for in fortuitous events there can be neither order nor conftancy. Now in every country throughout the world the feafons fucceed each other with the fame regularity as the nights and days, and change the appearance of the earth precifely at the appointed time. We fee it fucceflively adorned, fometimes with herbs and leaves, fometimes with flowers, fometimes with fruit. Afterwards it is ftripped of all its ornaments, till

Spring returns, and in fome degree revives it. Spring, Summer, and Autumn provide food for men and animals, in giving them abundance of fruits; and though nature appears dead in Winter, yet that feafon is not without its bleffings; for it moiftens and fertilizes the earth, and by that preparation makes it fit to produce its plants and fruits in due feafon.

COMPLAINTS OF MANKIND, RELATIVE TO CERTAIN INCOM-VENIENCES IN THE LAWS OF NATURE.

" Prefumptuous man ! the reafon wouldst thou find

MARCH ESK 21-75 # 4278 # 177.44

"Why form'd fo weak, fo little, and fo blind!

" First, if thou canst, the harder reason guess,

" Why form'd no weaker, blinder, and no lefs !

" Refpecting man, whatever wrong we call, " May, muft be right as relative to all."

POPE.

"WHY is the human body, from its conftitution, liable to fo many infirmities and accidents ?" Let him who afks this queftion, fay, whether it be poffible to imagine a body which unites more advantages than that which he has received from his Creator ? If one of our fellow creatures be deformed, another lame, a third deaf or dumb; is it a reason for us to murmur against God ? Are those defects fo common that they should induce us to complain ? It is of use to men, in general, that they may not want examples of the defects to which the human body is liable. For. when a perfon, perfect and well made, compares himfelf with one that is crooked and deformed. he is fenfible of all the advantages of well formed limbs; he learns to fet a proper value upon a gift on which he had hardly ever reflected till then, and to take more care of its prefervation. How valuable is each eye, each ear, each organ of fenfe, each joint, each limb, if we only obferve the condition of the few people who are deprived of them ! Would any of us part with a limb in exchange for the greateft treafure ? Are not our bodies more beautiful and regular than the fineft building, or the moft curious machine ? And though the latter are very inferior to it, we are far from attributing the affemblage of their parts to chance.

"Why are fome countries of the earth fo different from others; fometimes cold, fometimes damp, fometimes low, and fometimes high?" But, O man, it is owing to this difference that the countries of the earth produce that variety of exhalations and winds, which occafion that mixed air, wherein experience tells us, that men and animals live healthy and content in most places, and wherein plants alfo grow and increase.

" It is, however allowed that the variations of the weather are not beneficial to all men, and to all countries." But, has not the preceding weather influenced the following, as the climate of one country often influences another. Are we capable of judging of the whole; Muft a million of farmers figh in vain for rain, becaufe dry

weather would fuit the private convenience of one family? A certain temperature of the air may occafion, here and there, a transfient barrennefs; but, can it be called an evil, if it were neceffary in order to hinder the air from corrupting? Ought the eaft wind, favorable to a whole country, to ceafe to blow, becaufe its violence may caufe fome fhipwrecks, or be hurtful to fome confumptive people? Is it reafonable, when we cannot take in the whole, to find fault with part?

" One part, one little part, we dimly fean, " Through the falfe medium of life's feverifh dream ; " Yet dare arraign the whole flupendous plan, " If but that little part incongruous feem !"

"Why are there fo many hurtful animals?" Would it then be better to have no beafts of prey, finall or large, upon the earth? They put a ftop to the number of animals, that would otherwife overpower us ! and, it is becaufe fome animals ferve for food to beafts of prey, that the numbers of living creatures increafe every year.

"Why has the Creator regulated the courfe of nature by fuch invariable laws? It is in confequence of this regulation that man's experience and labor enable him to make use of his underftanding and powers, fo as to be, in some meafure, master of his own welfare. Would we with

to inhabit a world, where we fhould have no occafion to do any thing; where we could not in any way contribute to the multiplication of our own pleafures; where there fhould be no rule, no fundamental law; where, in fhort, the beft, the bad, and the worft being equally unknown, nothing could make us attend to the laws of nature ?

Doubtlefs, there will ever be a number of things in nature, the purpofes of which, or their relation with the whole, muft ever be concealed from us. But, on all occafions, let us reft on this principle, that God does every thing for wife and beneficent purpofes. And, when thefe enigmas, thefe inexplicable things, prefent themfelves, let us fay with the apoftle, "O! the depth of the riches, both of the wifdom and knowledge of God! How unfearchable are his judgments, and his ways paft finding out !"

Know then whate'er in Nature's ample field
The feanty ken of thy revolving eye
Hath mark'd as evil, in the general plan
'Is juft, is beauteous. The conjoining parts,
Though each when feparate, like a fingle limb
In fome proportion'd fhape, appears deform'd,
As view'd apart ; yet when exactly wrought
In the full work, an heightened grace affumes,
And aids the perfect fymmetry of all."

OGILVIE.

# SPRING.

#### HOPE OF SPRING.

- " Stern WINTER hence with all his train removes, " And cheerful fkies and limpid ftreams are feen;
- " Thick fprouting foliage decorates the groves ; " Reviving herbage clothes the fields with green.
- " Yet lovlier fcenes the approaching months prepare ; " Kind spring's full bounty foon will be difplay'd ;
- " The fmile of beauty every vale fhall wear, " The voice of fong enliven every fhade."

SCOTT, OF AMWELL.

155

EVERY day brings us nearer to the pleafures of Spring, and gives us hope of the time approaching, in which we may breathe more freely, and contemplate nature with more fatisfaction and joy. This fweet expectation is almost the only one which does not deceive us, being founded on the invariable laws of nature. The charms of this hope are felt in every heart without diffinction; for the beggar, as well as the monarch, may behold the Spring approach with pure joy, and promife himfelf in it the enjoyment of pleafures. This hope is not attended with impa-

T.

tience, becaufe it extends very far, and takes in a multitude of objects.

The coming of Spring procures us a thouland new pleafures. The beauty and perfume of the flowers; the finging of the birds; the verdant foliage, and the fpringing grain.

Moft earthly hopes are attended with anxieties : But that of Spring is as fatisfactory as it is innocent and pure; for nature feldom deceives us. On the contrary, her prefents generally furpafs our expectations, in number, magnificence and quantity. Encouraged by the hope of Spring, we have patiently borne the inconvenience of cold and bad weather ; many are now on the point of feeing that hope abundantly realized. A few more difagreeable days and the fky will become ferene, the air milder ; the fun will revive nature, and the earth will reaffume its ornaments.

O most merciful God ! I return thee thanks for those fources of joy and comfort which thou hast opened to us, to fosten the ills of life. I bless thee for every ray of hope which has animated my foul, for every blessing already received, and for all those referved for me hereafter.

157

REFLECTIONS ON THE SPRING.

LO SPRING returns on mildeft breezes borne!
Nature revives : the fields no longer mourn.
A verdant carpet o'er the plain fhe fpreads,
And fragrant flowrets rife where e'er fhe treads.
The feather'd fongfters warble through the grove,
And give the genial feafon all to love."

THAT Seafon of the Year, which we call the Spring, has charms which are felt in every heart; all mankind behold its approach with joy, and promife themfelves much pleafure from it.

It was but lately that the whole furface of the earth was barren and defolate. The vallies, the profpect of which now gives us fo much pleafure, were buried in fnow; the rivers and ftreams, which now pleafingly murmur as they flow, were ftopped in their courfes; the trees difcovered nothing but leaflefs branches; the birds, who now fill the air with their mufic, were mute; and, as far as the eye could ftretch, all was melancholy filence. But, in this beautiful feafon, nature awakes and all her vital energies revive. The mighty pulfe of life begins again to beat; the earth, penetrated by the quickening 158

warmth of the fun, reaffumes her ornaments ; the fky becomes ferene, and the air more mild ; the whole face of nature is renewed and embellifhed, and whenever we turn our eye, it is captivated and fweetly delighted. The feafons, as they change, bring with them an agreeable variety, and each of them is diffinguifhed by peculiar pleafures; but, of all others, this, the youth of the juft ripening year, moft univerfally delights us : all is beauty to the eye, mufic to the ear, and tranfport to the heart.

That we may be the more ftrongly imprefied with a reverential admiration of that God whofe power and goodnefs are fo pleafingly manifefted at this feafon, let us confider fome of the various beauties and bleffings of the Spring.

He who has any tafte for the beauties of nature can never want pure and fincere pleafures in this feafon. The clear unclouded fky is his canopy, and the earth, enamelled with flowers, is his carpet ; the cattle express, in the best manner they can, the fpirit and the joy with which they are animated ; the fish, recovering their former vivacity, rife to the furface of the water, and agreeably amufe our fight ; whilst the air refounds with the fongs of birds, whose concerts are hymns of joy to their Creator, expression of their happiness

and love. Such is the general blifs which the *Spring* produces; and we every where trace its enlivening powers and happy effects in an univerfal ferenity, livelinefs and joy.

Is it poffible that, at the fight and enjoyment of fuch objects, the heart fhould not beat high with grateful transport? Or can the mind have a more pleafing employment than that of contemplating and praifing the greatness of the Creator's wifdom, and the beauty of his works? Never ought we to breathe the refreshing air of this feafon, without being awed into reverence, and warmed with devotion; without recollecting that it is God who clothes the woods and meadows with their beautiful verdure ; gives life and happiness to the various tribes of creatures who mingle fo much magnificence and beauty with the fcenery ; and that it is through Him we enjoy the fweets and the comforts of returning Spring.

There is not a field which does not now prefent a beautiful landfcape to the eye. We fee on all fides a multitude of flowers in the bud; their fweets as it were locked up, and their charms concealed; but the all enlivening heat of the fun will foon open them, caufe them to bloom and bloffom, and equally delight and furprife us

L 2

with the variety of their beauties: for how much foever we may admire the prodigious number of flowers, their variety is, perhaps, more aftonifhing. Certainly nothing but a Divine Power could caufe fuch numbers to grow ; and this power must be equalled by wifdom to produce fuch endlefs variety. Each has fomething peculiar to itfelf; and it is an act of divine goodnefs thus to have varied them, and added that charm to their other perfections. If they had all been perfectly alike, the famenefs would have difgufted us; and, if Summer produced no flowers but fuch as the Spring affords, we fhould foon be tired of cultivating them. With what wifdom has the Creator planned his works ! all wonderfully various, all completely perfect ! in all the agreeable and the ufeful are united.

We may alfo find many reafons to admire the wifdom and goodnefs of the Creator in the *fucceffion* of flowers. Thefe beautiful children of nature appear not all at once, but in a regular fucceffion; the time is fixed in which one is to unfold its leaves, and another to bloffom, and a third to fade. Each month difplays ornaments peculiar to itfelf. And it is for very kind purpofes that, on the return of Spring, each plant and flower fhould open its leaves, and bloffom at the time, and in the order appointed : The Creator thus favors us with a regular train of benefits, and not only multiplies, but renders them perpetual; for, although there are always fome flowers fading, there are new ones continually fpringing up, to adorn the face of the earth, and enliven our journey through life.

Let it alfo be remembered that, to the pleafure which we receive from the wonderful variety, and regular fucceffion of flowers, God has alfo been pleafed gracioufly to add the charm of fweet perfume, and to give as much variety to their fmell as to their forms; and though we cannot exactly tell in what the difference confifts, yet we perceive it very fenfibly, in going from flower to flower : and it is remarkable that this finell is not fo ftrong as to affect the head difagreeably, or fo weak as to lofe its pleafing effect. Thus all the fenfations that flowers can give contribute to our happinefs; they all combine to fill our minds with the pureft delights, and to lead our hearts to God.

The leaves of trees and plants alfo, common as they are, and of how little value foever they may feem, form, at this feafon, one of the beauties of nature; our impatience to fee them, and our joy when they appear, prove fufficiently that they are a great ornament to our gardens, fields and woods. This, however, is the leaft of the advantages which arife from leaves.

The nourishment of plants and trees proceeds, in a great meafure, from their leaves, which imbibe moifture, and receive those refreshing dews, that falling upon the upper leaves, water those beneath them, and thus none of the nourifhing juice is loft. Leaves alfo contribute to the prefervation of those buds of trees, which are to fhoot in the following year, for the eye of the bud is already under the leaf, and is guarded and preferved by it; as we fee many trees wither and die, when their leaves are gathered. This should teach us that the least of God's works has been planned with wifdom; that there is not a fingle leaf which is a mere ornament, but that they all contribute to the fruitfulnefs of the earth, and the fupport of its inhabitants.

Another pleafure attending the return of Spring is that "the time of the finging of birds is come :" the foft air of the Spring awakens the winged fongfters, the variety of whofe mufic charms the ear, and fills the foul with a fweet and a ferene pleafure. These fplendid inhabitants of the air poffers all those qualities that can foothe the heart, and pleafe the fancy; the prighteft colors; the roundeft forms; the most kvely manners; and the fweeteft mufic : They enliven our walks; and, throughout all the retreats of retirement, fill our hearts with gaiety, and give harmony to meditation.

Another advantage arifing from the Spring is, that it furnishes us with an opportunity of obferving the industry and labors of the bees. Bees have been the theme of the poet, the legiflator, and philosopher; they have been confidered as emblems both of public and private virtue; of fubordination, ingenuity, and of a diligence which is not only uncommon, but, perhaps, unequalled. They appear as foon as winter is paft, and, even before the juices of those flowers which begin to bloffom have been fufficiently ripened to furnish honey, gather fome little food; but their cares and activity increase, as the feafon advances; they do all they can, and defpife not fmall gains, if they can increase their stores a little. They prudently lay up provision for the winter, knowing that they can gather no more when the feafon of flowers is paft ; and having then no refources for fubfiftence but fuch as they have already collected.

But it is not fufficient that we admire the activity of thefe little creatures ; it ought to infpire us with emulation, and ferve us as a model. There are, indeed, no infects around us which can

afford us more pleafing, or more ufeful, leffons, Infignificant as they may feem, we may learn from them virtues on which the happiness of our lives greatly depends. A hive is a fchool to which many of the human race ought to be fent. All the virtues are confpicuous in the bees; they are never idle, and all labor for the public good; they live in union and harmony; are ftrictly united and perfectly happy; they enrich themfelves without robbing others; and are all obedient and fubmiffive to the laws of the community. If we compare human focieties with this, we must blush and be ashamed; particularly if we recollect that we have much ftronger reasons for the performance of our duties than these infects; as the fruit of our labors extends not to days and years only, but to eternity.

This feafon of the year feems peculiarly formed for piety. That cheerfulnefs of heart which fprings up in us from a furvey of the beauties of nature is an admirable preparation for gratitude; and it feems reafonable to fuppofe that each field fhould be to us a temple, where we fhould offer up to our Creator praife and thankfgiving; where each thought and each action fhould tend to his glory, and thus convert a common walk into a morning or an evening facrifice. But we daily fee the ingratitude of man to his heavenly Benefactor. Yet how is it poffible for

us, at this feafon, to forget our Creator, who fhews himfelf to us in each blade of grafs and each flower of the field ; who addreffes himfelf, in the mild and perfuasive language of renovated nature, to our fenfes, our reafon, and all our faculties? Let us liften to her language and we shall never be infensible or ungrateful. When we find ourfelves pleafed with the beauties of the creation, let us confider to whom we are indebted for all this entertainment; who it is that openeth his hand and filleth the world with good. We shall never truly enjoy this feafon, until, by fixing our attention on the works of the Creator, we learn to trace out his power and goodnefs; and to be careful not to make a bad use of the bleffings of Spring, by indulging pleafures which lead to folly and fin.

Yet Spring, though the feafon of hope, fupplies us alfo with images of frailty and death, which are connected with almoft every beauty of nature. Spring is the feafon in which plants receive a new life; and in which moft of them perifh. We fee the trees full of bloffoms, and abounding with beauties : but all thefe fhewy ornaments will die in the fame feafon which gave them birth. Let every one, in thefe bloffoms, behold an image of himfelf; and recollect that of thofe days of youth, which we call the Spring feafon of life, nothing but a melancholy remembrance remains, unlefs he has made a good ufe of them.

But, although thefe thoughts ought to make us ferious, we fhould notwithftanding enjoy both the Spring of nature and the pleafures of life, as they are beftowed upon us by our gracious Creator : mixing, at the fame time, with thefe enjoyments fuch reflections as arife from the nature of fpring and of life. The thought of death is very confiftent with every innocent pleafure ; far from caufing melancholy, it fhould teach us to rejoice in the Lord ; fhould guard us againft a bad ufe of earthly pleafures, and infpire us with a defire of uninterrupted and everlafting happinefs.

Laftly, let us recollect that, as the flowers which we fo much admire in the Spring were once coarfe and ungraceful roots; but, in their appointed time, bloom, delight our fenfes, and adorn the earth with an infinite variety of charms; this affords us a beautiful reprefentation of the ftate of our reanimated bodies ; which, although, whilft in the grave, an object of horror, will experience at the refurrection a most astonishing change; that which " was fown in difhonor fhall be raifed in glory"; "the corruptible will put on incorruption; the mortal be clothed with immortality;" and fhine as the brightness of the firmament in the new Heavens and the new Earth, where an unfading Spring flourishes, and will continue to flourish through the ages of eternity.

167

USE OF VEGETABLES.

"Your contemplation farther yet purfue;
"The wondrous world of vegetables view.
"Here various trees their various fruits produce,
"Some for delightful tafte, and fome for ufe:
"There fprouting plants enrich the plain and wood,
"For phyfic fome, and fome defign'd for food :
"While fragrant flowers with different colors dy'd
"On finding meads unfold their gaudy pride.

WHEN I confider the great number and variey of vegetables, I difcover in this circumftance, as in every thing elfe, the beneficent views of my Creator. What indeed could he propofe by covering the earth with fo many different herbs, plants, and fruits, but the advantage and happinefs of his creatures ? Do not plants and fruit furnish us every day with the most wholefome nourishing food ? Do we not mostly owe our cloathes, houfes, and furniture, to the vegetable world ? There is no part of plants but has its utility. The roots furnish medicaments : They ferve for food and fuel; to make pitch, dyes, and all forts of utenfils. Of zucod is made charcoal, buildings, fires, medicines, paper, dyes, and a vast number of instruments. Even the bark has its utility in medicine, in tanning, &c. The

a/hes ferve to manure and improve the lands, to bleach cloth, to make faltpetre, potafh, &c. Rofin is useful to painters. Pitch and tar are made of it. Turpentine is used in medicine ; hard rofin to varnish, to folder, and to rub the bowftrings of mufical inftruments, in order to make them more fonorous. Flowers pleafe and delight both by their color and fmell. They are ufeful in medicine, and efpecially in furnishing bees with wax and honey. The fruits, which ripen by degrees, ferve for our food, and are eaten either raw, baked, dried, or preferved. But vegetables are not for the ufe of man alone. They are of ftill greater use to animals, most of which have no other food. The reafon that there are fo many fields, and fo great a variety of herbs and plants, is that all the different animals may find their proper food.

O heavenly Father ! who can reckon all the bleffings which the vegetable world affords ? At leaft it is manifeft that all the arrangements which thou haft made, in this refpect, tend to the utility of all thy creatures. Thou haft provided for the wants of every individual. Thou haft affigned to each the plant propereft for its food and prefervation. There is not a plant upon earth that has not its purpofe and ufe. What fentiments, therefore, of gratitude and veneration ought we not to feel for thy beneficence.

160

ON THE BLOSSOMS OF TREES.

Observe the trees their tender buds disclose, How with young bloom the early orchard glows; There ripening fruits in embryo fmall appear, The grateful prospect of a plentcous year.

AT the time when our gardens and fields are adorned with all the ornaments of Spring, all the region appears with equal pomp, and every where prefents the most cheerful prospect. The power of the first word pronounced by the Creator when he formed the world, produced all thefe magnificent effects. The Creator and Ruler of the world, has in a few days renewed, and in a manner created the earth again, for the use and pleafure of his intelligent creatures. Come, O man ! come and try what thy wifdom and power can do. Art thou able to make a fingle tree bloffom, to call from the earth the finalleft blade of grafs, to order a fingle tulip to appear in all its beauty ? Draw near, ye learned artifts, and skilful painters, and contemplate thefe flowers, examine thefe mafter pieces with the most fcrupulous attention ! Is any thing

wanting to their perfection? Do you find any fault in the mixing of the colors, in their form, or proportion ? Could your pencil express the dazzling red of the peach bloom? Could you imitate the fine enamel, the uniformity and fimplicity with which a cherry tree in bloffom is adorned ? But why do I fay, imitate ? Are you even capable of feeling all the magnificence of renewed nature, or of forming a just idea of inimitable art ? If there were no ftronger proofs on earth of the power and wifdom of God, the flowers of Spring alone would be fufficient to convince us of it. His power evidently appears throughout the whole. Each tree, herb, and flower proclaims his goodnefs and wifdom, which are over all the earth.

We remark an infinite variety in the bloffoms of trees. All are beautiful; but their beauties are different. One furpaffes another; but there is none which has not fomething pleafing peculiar to itfelf. However great the Creator is in difpenfing his gifts, he ftill referves to himfelf the liberty of beftowing more on fome than others. But this difference is only in refpect to acceffary qualities. Such a tree, for example, has bloffoms of a dazzling white; another has red ftripes and fhades, which the firft wants : fome have, (added to the beauty of their form and color) an exquifite perfume. But all thefe differences are only accidental, and do not in the leaft affect their fertility or their ufefulnefs. Hence we fhould learn a leffon of contentment. If we have not the fame advantages which others poffefs; if we are not as rich or as beautiful, we fhould not repine; we may ftill be as virtuous, and as happy.

Let our chief ftudy be, to act in fuch a manner, that when the beauty and charms of the body are no more, we may fupply their place with abundant fruits of virtue and piety : remembering that a blighted Spring makes a barren year; and that, however beautiful and gay its flowers may be, they are only intended by nature to prepare for the fruits of autumn.

M

EXFLECTIONS ON A FLOWER GARDEN.

"In all the colors of the fluthing year, "The garden glows, and fills the liberal air With lavifh fragrance."

-----

THOMPSON.

COME and behold the flower garden, and reflect on the number of different beauties affembled together in this little fpace. The art and induftry of man have made it a charming fcene of the fineft flowers. But what would it have been without care and culture ? A wild defert, full of thiftles and thorns. Such would youth be, if they were neglected to be formed or properly educated. But when young people early receive ufeful inftructions, and are under wife direction, they are like lovely bloffoms, which delight with their beauty, and will foon produce fruit beneficial to fociety.

Behold the night violet, or the julian flower, which, towards evening fcents our gardens with its perfume, in which it is fuperior to all others. It is little and of a grey color, tinged with green, fo that it can fcarcely be diftinguished from the leaves. Modeft, without shew or pretensions, it perfumes the whole garden. It is like a perfon who has much genius, and whom nature has compensated for the want of beauty by more

agreeable and ufeful endowments. The beneficent man often does good in fecret and in obfcurity, and fheds around him the perfume of good works; and, when we wifh to be acquainted with this most estimable of characters, we find that there is nothing oftentatious either in his perfon, condition, or rank.

In the carnation beauty and perfume are both united, and it is undoubtedly the most perfect of all flowers. It almost equals the tulip in its colors, and it furpasses it in the multitude of its leaves and the elegance of its form. This flower is the emblem of an accomplished person, who knows how to conciliate the love and respect of his fellow creatures.

Let us now obferve the rofe. Its color, form, fragrance, every thing in this flower charms us. But it appears to be the moft transfient and frail of any, and foon loofes the beauty that diftinguissed it from for many flowers. This is an useful lefton for those who are very handsome, and it ought to teach them not to be vain. And as its odors remain when the leaves are withered, it suggests this pleasing moral, that there are charms which give even to beauty its value while it lasted, and more than compendate its loss.

In general, it is a melancholy fight to fee, in this fine feafon, the ground already frewed with fo many faded and dead flowers. We ought bot, however to complain that Providence does

not give more ftability to them. The world is a great ftage, where we are not to fee always the fame actors. It is right that those who have finished their parts should retire, and make room for others. This is what the variety of God's works requires; a variety which conftitutes part of their perfection. We are also fensible to the charms of novelty; it is therefore neceffary that the first objects should difappear. If flowers preferved their bloffoms the whole year, they would not pleafe us as much as they do by only lasting a few months. Their absence makes us wifh for their return. If they were continually before us we fhould foon be fatiated. When we have feen an object in all its different points of view, we have in fome measure exhaufted its beauty, we become indifferent to it, and we afpire after new pleafures. The variation and continual fucceffion of earthly bleffings are therefore a mean which Providence makes use of to render our lives conftantly agreeable.

Such is worldly happinefs. All is va ty. "All flefh is as grafs, and all the glory of man as the flower of grafs. The grafs withereth, and the flower thereof falleth away." The lilies and rofes in a beautiful face fade as well as the flowers of the garden, and death leaves no traces of them. Let us then be wife enough to feek our peace and happinefs in conftant and durable bleffings. Wifdom and virtue never fade. They are inexhauftible fources of endlefs, joy.

175

THE BEAUTY AND UTILITY OF THE MEADOWS AND FIELDS.

" As o'er the varied meads I ftray
" Or trace through winding vales my way,
" While opening flowers their fweets exhale
" And odors breathe in every gale,
" My foul refponfive hails the fcene,
" Attun'd to joy and peace within.
" But, mufing on the liberal hand
" That fcatters bleffings o'er the land,
" That gives for man with power divine
" The earth to teem, the fun to fhine,
" My grateful heart with rapture burns
" And pleafure to devotion turns."

WHATEVER charms the flowers cultivated in our gardens may have, those in the fields and meadows are still more agreeable. There is beauty in the former, but in the latter beauty and utility are united. Mere useless beauty pleases for a moment only. Is it not true that, in those long gravel walks, so even and neat, those arbors and fummer houses, those parternes with pretty borders, those walls, those inclosures, we feel confined, and as it were oppressed ? All those places, where the view is confined, feem to fet bounds to our liberty. We wish to fly away to M 2

the fields and meadows. We feem, in fome degree, to be more independent, and more at eafe, in proportion as our walk enlarges and lengthens before us. In the country, nature, fruitful and beautiful, every moment varies its appearance; whereas, in our ornamental gardens, we continually behold the fame objects. Even their order and regularity prevent us from being long pleafed with them. They have nothing new to offer us, and we grow tired of them. The eye, on the contrary, wanders with pleafure over objects continually diversified, and extending as far as the fight can reach. It was in order to give us this enjoyment that, in most places, the ground was formed finooth and even ; but that we might also have pleasing distant profpects, our horizon is furrounded with rifing hills. Nature has done ftill more : It has fpared us the trouble of cultivating those flowery meads, or of watering them. An innumerable multitude of feeds is fown in them, which produce a verdure fcarcely ever interrupted, or which is at leaft eafily renewed. This prodigious variety of plants with which a field is covered is not for the fight only : they have each a feed, a bloffom, qualities, and beauties, peculiar to them-

felves. It is true that the fame fpecies of herbs is prodigioufly multiplied in each field ; but perhaps we do not make two fteps without treading on an hundred different forts, each of which has its peculiar ufe. This is one of the first reflections which we ought to make at the fight of a field. To the pleafure which it affords us our beneficent Creator added confiderable advantages. The fields produce plants for our food, and a wonderful number of fimples which ferve for medicine. But the greatest use of the fields to us is the feeding, without expense, of those animals with which we can the least difpense. The ox, as well that whose flesh we eat, as that whose labor helps to plough our ground, requires no food but grafs. The horfe, whofe fervices are innumerable, demands no other recompense for his toil than the free use of the field, or a sufficient quantity of hay. The cow, whofe milk is one of the great fupports of our life, afks nothing more. The field is the most complete inheritance. It is even preferable to meadows, as its produce is certain, and requires neither fowing nor labor. It only cofts the flight trouble of gathering what it yields. Its productions are not cafual, for it feldom happens that fields are deftroyed by drought or inundations. But it is

melancholy that men, who are generally fo inattentive, fo infenfible to the bleffings of God, fhould be fo in this respect also. We look upon grafs with contempt or indifference, perhaps, becaufe it grows under our feet, and has not been made the object of our care and culture. But whatever may be the caufe of our indifference, it is certainly quite inexcufable. Would to God that our hearts were grateful whenever we walk in our fields and vallies ! that at the fight of our meadows enamelled with flowers we were fenfibly touched with the goodness of the Creator, who, with a bountiful hand, pours out abundance ! There is not a corner of the earth where we may not difcover traces of his good providence ! Ev-, ery country, every foil, the good and the bad, all equally proclaim the Preferver of the univerfe.

CONTEMPLATIONS ON A MEADOW.

- " Nor is the mead unworthy of thy foot,
- " Full of fresh verdure and unnumber'd flowers,
- " The negligence of Nature, wide and wild;
- " Where, undifguis'd by mimic art, fhe fpreads
- " Unbounded beauty to the roving eye."

THOMPSON.

179

DARK and majeftic woods, where the pine raifes its stately head, where the tufted oaks fpread their shade; ye rivers which roll your filver waves through the grey mountains, it is not you I now mean to praife : it is the verdure and the enamel of the fields which are now the objects of my contemplation. How many beauties prefent themfelves to the fight, and how varied are they ! Millions of vegetables, millions of living creatures ! Some flying from flower to flower, whilft others creep and crawl in the dark labyrinths of the verdant grafs. All thefe infects, fo infinitely varied in form and beauty, find food and happinefs here. All inhabit this earth with us; and, however contemptible they may appear in our eyes, are perfect each in its kind. How foft the murmurs of that limpid

ftream, which flows amongst the water creffes, and along the banks of clover, whofe purple flowers are nourifhed by its little waves. Its fides are covered with thick grafs intermixed with flowers, which, bending over the water, trace their image in it. Behold that forest of waving herbs. What a mild luftre the fun cafts on those different shades of green. Those delicate plants, interwoven with the grafs, mix their tender foliage; or elfe proudly raife their heads above their companions, and difplay flowers without perfume ; whilft the humble violet grows on barren hills, exhaling its fweets around. Thus one often fees the ufeful virtuous man in poverty, whilft the rich and great are clothed in fumptuous habits, wafting in idleness the bleffings of the earth.

Winged infects purfue each other in the grafs. Sometimes I lofe fight of them in the verdure, and then again I fee a fwarm of them flying in the air, and fporting in the rays of the fun. What other buzzing is this I hear? Why do thofe flowers fo bend their heads? It is a fwarm of young bees. They have lightly flown from their diftant home, and difperfed over the gardens and fields. They are now gathering fweet nectar from the flowers, in order to carry it to their

cells. There is not an idle one amongst them. They fly from flower to flower; and, in feeking their ftores, they conceal their velvet heads in the cup of the flower, or elfe with labor penetrate into those that are not yet unfolded, and which afterwards incloses the bee. There, on that high clover, is perched a butterfly. He fhakes his gaudy wings, he fettles the fhining feathers which adorn his head, and feems proud of his charms. Beautiful butterfly ! make the flower bend, which ferves thee for a throne, and contemplate thy rich drefs in the mirror of the water. Then wilt thou refemble a young beauty, admiring herfelf in the glafs which reflects her charms. Her clothes are lefs beautiful than thy wings, and her thoughts are as light as thine. Behold this little worm playing on the grafs ! No refearches of luxury, no human art could imitate the green and gold which cover its wings, wherein all the colors of the rainbow are mixed.

O how beautiful is nature ! The grafs and flowers grow luxurious; the trees are covered with foliage; the gentle zephyr falutes us; the flocks feek their pafture; the tender bleating lambs fkip and rejoice in their exiftence; millions of points of grafs rife up in this field, and to each point hangs a drop of dew. How

many primrofes, with their trembling leaves, are here ! What harmony in the notes of the birds from yonder hill! Every thing expresses joy : Every thing infpires it. It reigns in the hills and dales, in woods and in groves. O how beautiful is nature ! Yes, nature is beautiful even in the leaft of its productions; and whoever can be infenfible to its charms, becaufe a prey to tumultuous defires, purfues falfe bleffings, and deprives himfelf of the pureft pleafures. Happy he, whofe innocent life paffes away in performing his duty to his Maker and in the enjoyment of the beauties of nature ! The whole creation fmiles upon him, and joy attends him wherever he goes, and under whatever shade he reposes. Pleafure fprings out of every fource, exhales from each flower, and refounds in every grove. Happy he who takes pleafure in innocent delights ! His mind is ferene as a calm fummer's day. His affections are gentle and pure as the perfume of the flowers around him. Happy he who, in the beauties of nature, traces the Creator and devotes himfelf wholly to him.

183

# SUMMER.

REFLECTIONS ON THE SUMMER.

" Now genial funs and gentle breezes reign " And SUMMER's faireft fplendors deck the plain."

SUMMER is the Seafon in which the Creator pours forth the treasures of his bleffings in the greateft abundance. Nature, after having charmed us with the pleafures of Spring, is continually employed, during the Summer, in completing the hopes infpired by Spring; in providing every thing to pleafe our fenfes, fupply our wants, and awaken in our hearts fentiments of gratitude. Wherefoever we go; whether we climb the hills ; range the vallies ; or feek the fhade of the forefts; a variety of beauties prefent themfelves to us; all different from each other, but each poffeffed of charms fufficient to engage our attention. If we lift up our eyes, we are delighted with the radiance of the fky ; if we fix them on the earth, they are refreshed by the beautiful verdure with which it is clothed, and

prefented with a most agreeable variety of flowers. The pleafing notes and the various melody of birds fill our hearts with a fweet and innocent delight : and the gentle murmurs of brooks and rivers are highly pleafing to the ear. Lofty trees and groves afford us agreeable fhade; and the fields and gardens fupply us with a great variety of different fruits, that begin now daily toripen! and which, befides pleafing the eye and the tafte, are very refreshing to the body : In short, all that we fee or hear, tafte or fmell, increases our pleasures, and contributes to our happinefs. But, in order to be more fenfible of the goodnefs, wifdom, and power of the Creator, in his appointment of Summer, let us attend to fome acts of his providence which are more particularly visible at this feafon.

And, in the first place, let me direct your attention to a bleffing, common indeed, and therefore little regarded; but a bleffing, in itself invaluable, and absolutely neceffary to our support and continuance in life; namely, *Wheat*. Let us cast our eyes on a field of wheat, and calculate, if we can, the millions of ears of corn which cover one single field; and then reflect on the goodness of God who thus plenteously rewardeth the labors of men, by supplying them with such an abundance of this most necessary of all food. Let us also consider the wisdom which is displayed in

the production of this precious grain. We fow it in the ground, at a certain time, (and that is all that we can do) and, as foon as the earth fupplies it with a fufficient moisture, it fwells and burfts the outer coat, which covered the root, the ftalk, and the leaves : The root then pierces the earth, and prepares nourifhment for the stalk, which, though it appears very weak, is ftrong enough to endure the feverity of the feafon. By degrees it attains its proper height, and produces an ear of corn ; which is inclosed in leaves that ferve to protect it, and armed with points to fe- . cure it from the birds. It feems, at first view, impoffible that fo flender a ftalk, which grows four or five feet high, fhould fupport itfelf, and bear up its fruitful head, without finking beneath the weight, or being beat down by the wind, but the Creator has wifely prevented this, by furnishing the stalk with four very strong knots, which ftrengthen it, but at the fame time leave it the power of bending without breaking. If the stalk were weaker, the wind would break it; if ftonger, birds might perch in it, and peck out the grain ; if it were harder and ftiffer, it might, indeed, refift all weather, but would it then ferve, as it often does, as a bed for the poor? To preferve the tender fprouts from accidents which might

deftroy them at their birth, the two upper leaves of the ftalk unite clofely at the top, both to protect it, and to draw nourifhing juices; but as foon as the ftem is large enough to fupply the grain with fufficient juices, the leaves drop off, that the root may have nothing more to nourifh than is neceffary. The grain then appears, and thrives till the appointed time; growing every day more yellow, until, finking at laft beneath the weight of its precious treafure, it bends the head of itfelf to the fickle; and the joy that fparkles in the farmer's eyes, the joy of harveft, is a hymn of gratitude to the God of goodnefs.

From this life fupporting grain we are fupplied with that food which is most common, and most wholefome. Bread is as neceffary at the table of a prince as at that of a laborer; and the fick perfon is as much refreshed by it as the healthy. A very plain proof that bread is neceffary for man is, that it is almost the only food we do not diflike, though we eat it every day: and the man who has made it his daily food for feventy years, ftill eats it with pleasure, though he has loss this reliss for all other food. We ought, therefore, each day to praife our Creator for this bleffing; and to remember

that he is unworthy of the bread which he eats who is unthankful for it.

At this feafon of the year we have alfo an opportunity of obferving the aftonifhing wifdom and power of the Creator in a vaft variety of infects. Wherever we go, which way foever we look, they prefent themfelves to our view; and contribute, like the birds, to banifh folitude from our walks, and to fill up our leifure hours with the most pleafing contemplations : For we may trace the hand of God as clearly and as fully in the finallest infect that crawleth on the earth, or flieth in the air, as in the huge elephant, or the whale that lies, like an island in the water.

The number of infects cannot, perhaps, be afcertained; fome millions are known; but, at prefent, I fhall confine my obfervations to two very remarkable ones, only feen in the fummer; the ant and the caterpillar.

Ants are famous from all antiquity for their focial and induftrious habits; they have long been offered as a pattern of frugality to the extravagant, and of unceafing diligence to the fluggard.

"The ants," fays the fcripture, " are a people not ftrong, yet are they exceeding wife;

N

having no guide, overfeer, or ruler, they provide their meat in fummer, and gather their food in harveft." Their labor and diligence in collecting their flores is wonderful; they are often feen to carry, and fometimes pufh before them, grains of corn, or infects, much larger than themfelves; if one faints beneath his load, another haftens to his affiftance; if any thing is too heavy for one, and cannot be divided, feveral of them join to force it along. In gathering their flores the loaded ants go one way, and the unloaded another, that they may not interrupt each other; and in the whole fociety there is not one idle, but every one contributes fomething to the common flock.

May we not learn from thefe little creatures, who inftruct not by voice, but by example, an ufeful leffon of activity and diligence ? and how forcibly does this example teach us to feize the fleeting moments ; to lofe no opportunity of doing good ; not to wafte that time which cannot be recalled in floth or infignificance ; not to leave a talent unemployed, or a duty unperformed ? Life hath its feafons, like the year ; the time of health and ftrength may be confidered as its fummer ; and if we then labor, like the ant, we fhall not only contribute to the public good,

180

but, probably, acquire a comfortable provision against the winter of life, when ease and reftwill be very agreeable to us.

Caterpillars are creatures very difagreeable to many perfons, who deftroy them wherever they meet with them; and, fo far from confidering them with attention, will fcarcely look at them; yet, were we attentively to confider them, we fhould not furely trample them under foot without obferving their wonderful formation, and being convinced that in fmall things, as well as in great, the power, wifdom and goodnefs of the Creator are admirably manifefted.

Caterpillars are hatched from the eggs of butterflies. During the winter they remain in an egg flate, lifelefs; but the fame vivifying fun that pufhes out the budding leaf and the opening flower, and caufes the fwelling acorn to give birth to the fpreading oak, calls the caterpillar alfo into life, to fhare the banquet that nature has provided for her children. Its life however, . feems one continual fucceffion of changes; and, towards the end of the fummer, after having changed its fkin feveral times, it ceafes to eat, and is employed in building a retreat, in which it quits the form of a caterpillar, and is changed into a butterfly. But the caterpillar, and the butterfly that comes from it, appear to be two very different creatures : The former was a rough and difagreeable reptile; the latter is adorned with the livelieft and most beautiful colors, and diftinguished by ornaments which man can never hope to acquire : The former crawled fluggifhly on the earth, a mean looking worm, often in danger of being crushed, and feeding on grofs food ; whilft the latter foars to the fky ; ranges all the beauties of the creation, himfelf amongft the greateft; fports in the fun beams; difplays his golden wings; triumphs in exiftence; and needs no other food than the dews of Heaven, and the honeyed juices which are drawn from the flowers. Who is it that hath raifed this infect above the earth, enabled it to live in the air, and beftowed upon it fuch a profusion of beauties ? The Maker of the butterfly, and of man; who has fhewn us, in this extraordinary infect, the wonderful change that awaits ourfelves; when " this corruptible fhall put on incorruption, and this mortal shall put on immortality."

It is likewife to be obferved, that the beneficent Being, who gives wifdom to man, hath alfo informed the butterfly how to fecure its posterity in fafety, by covering the eggs from which

they fpring with a fort of pafte, fo clofely that the rain cannot penetrate, nor the common cold of winter kill the young contained in them. And we may further remark that butterflies, as well as other infects, conftantly lay their eggs on fuch plants as will afford their young neceffary food, when they are first hatched and too weak to fearch for it. Hence we should learn to admire the wisdom of Providence ; to cherist the love of posterity, and to remember what we owe to fociety.

Difcontent is faid to be the most general evil that troubles the life of man; and even at this feafon, when nature prefents every where cheerful fcenes, there are fome who murmur and complain. The heat of the fummer difpleafes many; they complain greatly of it as weakening and rendering them incapable of labor. But can any man ferioufly with the fummer lefs warm ? Because the heat may, fometimes, be a little inconvenient, would we wish the fruits which are to ferve for our provision in the winter not to ripen ? Let us not forget that heat and cold are distributed to us in the wifest proportion ; and that the fummer nights bring with them a coolnefs which revives languishing plants, and fo refreshes weakened animals that they forget the

heat and fatigue of the day. If we fludied the order, the beauty and perfection of the creation as attentively as we ought, we fhould ceafe thole murmurings, which prove us equally ignorant and ungrateful; and be convinced that, if we could alter any fingle part of that great machine, the world, we fhould do much mifchief, but could make nothing better.

Summer alfo, fay others, would be delightful, if thunder forms did not terrify us. The fear of thunder is perhaps, chiefly, owing to an opinion that it is the effect of the wrath of Heaven : the minister of the Almighty's vengeance : But if we confidered how much these ftorms contributed to purify the air, and render the earth fruitful, we fhould regard them as bleffings more formed to infpire gratitude than terror. They fometimes indeed do mifchief, but fear greatly magnifies the danger. There is, generally, fome fpace of time between the lightning and the thunder, and whoever has time to fear is already out of danger; for the lightning alone is fatal : The thunder, when the flash of lightning is past, is as harmless as the found of a cannon. Superflition and fear would foon be at an end, if we reflected more attentively on the course of nature, or confulted thef : who are well

informed on the fubject. But, if we cannot conquer the fear of thunder, let us endeavor to keep a conficience void of offence. The righteous man, calm and composed, fears nothing but his God ! and when the thunder roars, he trembles not, but looks up with humble and stedfast confidence to Him who commands the storm, and who, under appearances most dreadful, is all gracious to hear, and almighty to protect.

The awful fcenes of ftorm and tempeft, thunder and lightning, are fometimes prefented to our eyes to teach us the majefty and greatness of the Creator; but in thefe, as well as in more pleafing and cheerful fcenes, God appears as the friend and benefactor of mankind; and this is the feafon in which all nature furnishes the most striking proofs of it; when every thing combines to pleafe and to fupport us. But the time will foon come when nature will lofe much of her beauty and variety, and appear in a more gloomy form : She has now almost ended her annual labor, and the nearer we approach to autumn the more do the enjoyments which arife from the various melody of birds and the cheerful fcenes of flowery meadows and gardens leffen : and the ground is every where ftrewed with faded leaves and dead flowers. See we not here a picture of our life ? " All flefh is grafs, and all the glory of man as the flower of the field; the grafs withereth, and the flower thereof falleth away." Let us then be wife enough to feek our happinefs in lafting bleffings. Wifdom and virtue never fade; they are unceafing fources of endlefs joy.

To conclude. What we obferve in the fummer of nature, we may obferve alfo in the fummer of life. When we have reached our fortieth year, which is the beginning of a riper age, the world lofes part of its charms; and, when we approach the autumn of life, we become a prey to cares, and are lefs calm and ferene, lefs lively and joyous than we were : we find our ftrength grow lefs; and there come days when we fay we have no pleafure in them. Let us therefore enjoy this fummer as if it were to be our laft; and fo live as to have no reafon to lament our having fo often feen the return of this feafon.

# ON THE DEW.

The gentle dews each night refresh the plain In kindlier moifture than the copious rain.

THE wife Ruler of the world, who watches continually over his children, and provides for all their wants, makes use of more than one mean to render the earth fruitful. Sometimes it is by an inundation, like the Egyptian river Nile, which has the fingular property of overflowing its banks at certain stated periods, to water a country where it never rains. Sometimes it is by rains, which fall more or lefs frequently in order to cool the air and water the parched ground. But the most common mean, the furest and most universal, though which men the least attend to, is the dew. This ineftimable gift of Heaven (which, even in years of the greatest drought, fupports and preferves the plants from perifhing,) comes in those sparkling drops feen in fuch profusion morning and evening on the leaves of trees and plants. Dew confifts of aqueous vapors raifed by heat from the earth and plants, and condenfed by cold at night. By this wife plan of the Creator the plants can vegetate and grow in countries even where there is no rain; for the foil of those parts being fandy, porous, and very moist underneath, the heat draws out a great quantity of dew, which furrounds the plants and supplies the place of rain.

Those different methods which Providence makes use of to moisten and fertilize the earth, ought to remind us of those which he employs to improve the barren heart of man, and to make it fertile in good works. How many hardened hearts oblige him to fpeak in thunder and lightning, as formerly on Mount Sinai ! Lefs terrible means are employed to fave and effect others; with a gentle, mild and perfuafive voice, God calls them. to himfelf : he awakens their confciences, and refreshes their souls with the beneficent dew of his grace. Let this conduct of our heavenly. Father ferve as a model for ours. Let us employ all forts of means to reclaim our fellow creature, to make him better ; but let us particularly endeavor to gain him rather by kindnefs than by punishment. Let us imitate the beneficence of the Lord : we fee how he refreshes the parched earth with dew; he revives and gives new life to the plants. Let us endeavor to revive the hearts of the afflicted, the languishing, and impoverished, with benefits, and to pour as many bleffings on our fellow creatures as the dew fheds upon the plants.

#### END OF SUMMER.

-----" The fading many colored woods, "Shade deepening over fhade, the country round "Imbrown; a crowded umbrage, dufk and dun, " Of every hue, from wan declining green " To footy black."

WE no longer behold that fine enamel of the trees in bloffom; the charms of fpring; the magnificence of fummer; those different tints and fhades of verdure in the woods and meads.

The leav is are falling from the fruit trees. The grafs of the field is withered. The dark clouds fill the fky, and fall in heavy rains. The dried leaves and the faded grafs, are prepared by the autumnal rains to form manure to enrich the ground. This reflection, with the pleafing expectation of fpring, muft naturally excite our gratitude for the tender mercies of our Creator. Though the earth is lofing its beauty and exterior charms, and is expofed to the murmurs of thofe it has nourifhed and cheered, it is already beginning again to labor fecretly within its bofom for their future welfare.

Perhaps our own lot in this world has its feafons : if it be fo, let us in the decline of life have recourfe to the provisions laid up in the days of profperity : and endeavor to make a good use of the fruits of our education and experience. Happy, if we carry with us to the grave the merit of having been useful to fociety.

REFLECTIONS ON THE SUMMER WHICH HAS JUST PASSED.

" 'Twas Spring, 'twas Summer, all was gay, " Now Autumn bends a cloudy brow; " The flowers of Spring are fwept away, " And Summer fruits defert the bough."

JOHNSON.

THE fine days of fummer are flown ; and while we were preparing to enjoy them, they difappeared, and are gone. But have we a right to murmur at the difpenfations of God ? No, certainly we fhould rather recollect the past feafon, with the innocent pleafures it afforded, and blefs the Ruler of the world for them. What fweet fenfations they create! With what pure joy the foul is filled, in contemplating the beauties of creation ! When the mountains and vallies grow green before our eyes; when the lark, foaring in the bright clouds, and the feathered chorifters in the fhady grove, warble their fweet fong; when the flowers perfume the air around us; when the morning dawn diffuses universal gladnefs : or when the fetting fun tinges our

woods and hills with the fineft glow; what happinefs does the enjoyment of nature in full beauty afford us ! What rich gifts do the gardens, fields, and orchards, beftow upon us, exclusive of the pleafures they offer to the fenfes and the imagination ! Can we reflect on the months that are paffed, without a grateful emotion, and without bleffing the Parent of nature, who has crowned the year with his mercies? We are now living upon the productions of fummer. We have obferved how active nature has been during this fine feafon, in fulfilling the Creator's beneficent views in favor of man. How many plants and flowers bloomed up in fpring ! How much corn and fruit has the fummer ripened, and how pleafing is the profpect of a plentiful autumnal harveft.

Let us afk ourfelves whether the pleafures of the fummer have made us better or more grateful ? Have we raifed our hearts towards God in the contemplation of nature ? What have our employments been in the long fummer days ? Have we done good to our fellow creatures ? In beholding the fun, the flowers, and fo many delightful objects, have we experienced the fentiments which this magnificent fcene ought naturally to infpire ? Or are we confcious

that this fummer, like many others, has been thrown away upon us?

Let us blefs God that we ftill exift upon earth, let us reflect alfo that this may be our laft fummer. And knowing that we fhall be accountable for all those that we pass, let us from henceforth try to redeem the time that we have lost.

201

A REMEMBRANCE OF THE BLESSINGS WHICH STRING AND SUMMER AFFORD US.

\_\_\_\_\_

" Summer brought on the fruits which Spring had fow'd, "And nature triumph'd in her genial prime : " Autumn fucceeded, and rich fheaves beflow'd,

"And golden plenty fill'd the car of time."

BARET BARATE TOTTE TO BARAN DETERMENT

COME, O my friends, let us acknowledge the goodnefs of the Creator. Let us gratefully recal the time we have paffed in the fulnefs of joy, when, free from cares and anxiety, the renewal of nature filled us with delight ; when devotion followed us to the bower, and even the fhadow of forrow was banished our habitations; when, hand in hand, we fought the flowery paths in purfuit of the Creator, whom we found on every fide. Friendship, harmony, and innocent mirth. combined to heighten and endear our pleafures. Smiling nature lavifhing her flowers upon us, we breathed the balfamic odor of rofes. The pink and gillyflower perfumed the air around us; and, towards the evening of a fine day, the playful zephyrs wafted fweets to us on their light wings. Then were our fouls filled with mild delight : Our lips opened in thankfgiving to the

Lord, and our voices mixed with the fongs of the birds. At other times, when the breath of the wind had cooled the burning heat of the day, and the birds felt animated with new life ; when the clouds were all difperfed, and the great luminary promifed to be favorable to us, pleafure gave us wings; we cheerfully forfook the noife of cities, to feek the green fhades, nature's bow-There we were undifturbed. Wifdom, ers. piety, joy, and innocence, attended us to this rural afylum. The trees waving with the breeze, while they covered us with their shade, conveyed the most refreshing coolness to us, and Nature drew forth rich fources of content to pour into our pure hearts. There, entirely given up to the Creator, to nature, and to reflections on our happinefs, tears of fenfibility filled our eyes. This magnificent universe, faid we, is too beautiful to be the abode of the man who can unfeelingly behold it. As for us, who love God, we difcover in the zephyr, in the ftream, in the meads and flowers, in the blade of grafs, and the ear of corn, traces of his eternal wifdom, and, throughout all nature, heralds of his power.

And the second second second

203

# AUTUMN.

REFLECTIONS ON THE AUTUMN.

- " Fair plenty now begins her golden reign,
- " The yellow fields thick wave with ripen'd grain ;
- " Joyous the fwains renew their fultry toils,
- " And bear in triumph home the harvest's wealthy spoils."

It the variation of the feafons did not awaken our recollection of the flight of time, we fhould, probably, not obferve the fucceffion of its different parts; but fpend our days and months and years thoughtlefs of the paft, and carelefs of the future. The gradual and elegantly varied change of feafons is, therefore, a proof of the goodnefs of God, and may be a means of our inftruction and happinefs.

It is impossible to afcribe this variation to chance,\* as, in every country, the feasons fucceed

\* "What carelefs and inconfiderate men afcribe in common fpeech to chance or fortune, that is, to nothing at all, but a mere empty word, fignifying only their ignerance of the true caufes of things; this the foripture teaches to a forthe to the all-feeing and all-directing Providence of God."

DR. CLARKE.

each other in the moft regular manner, and exactly at the time appointed ; and, as order is the great law which the Creator has laid down for the government of the world, it is our duty to ftudy the order and perfection of his works ; and, in every feafon of the year, to trace his wifdom and goodnefs.

At that feafon, indeed, which is called Autumn, or more generally, in common language, the fall of the year, we fee little that recals to our minds the univerfal joy which lately reigned through all animated nature. We no longer behold the charms of fpring or the magnificence of fummer. The earth, no longer exhibiting that beautiful appearance which the grafs, the flowers, and the corn lately gave it, prefents little more to our eye than a dead, yellowish hue. The woods and gardens are ftripped of that great ornament, their leaves. Scarcely any traces of the golden harvest remain. The fields, which have bestowed fuch abundance upon us, promise no more this year. The winged fongfters are filent : and even the fun, when it fhines, appears not in its usual glory. Unthinking and ungrateful men, forgetting what they have fo lately and fo plenteoufly received, complain of thefe things; but wifer and well difpofed perfons, obferving that nature faithfully fulfils the eternal law of

205

being always ufeful, reflect with gratitude on the months that are lately paft, and blefs the Parent of Nature who has " crowned the year with his goodnefs."

Stripped and defert as the earth is, it ftill prefents to a feeling mind the image of happinefs; we may recollect that the fields, which are now barren, were lately covered with plentiful harvefts; and the remembrance of what they have beftowed upon us fhould filence the murmurs of thofe whom it has cheered and nourifhed.

Indeed we yet continue to receive pleafure from a variety of fruits which the goodness of God lavishes upon us in great abundance. Calculate, if poffible, the fruit which one hundred trees bear in a favorable feason, and you will be aftonished at the increase. What was the defign of fuch abundance ? If the prefervation and increase of trees only was the intention, a much lefs quantity would have been fufficient. It is, therefore, evident that the Creator defigned to provide food for man, and particularly for the poor, whom an abundance of fruit furnishes with a cheap means of fubfiftence which is not only agreeable, wholefome, and refreshing, but is alfo very useful in the medicinal way. And it is a farther inftance of the goodness of God that these fruits are bestowed upon us in a gradual manner,

and with the most wife economy; that, on the one hand, too great an abundance may not be a load to us; and, on the other, that we may receive a constant fucceffion and variety of enjoyments. In proportion, indeed, as we advance in winter, the number of fruits begins to diminish; but art has taught us to preferve them in that feason also; and notwithstanding the ravages of birds and infects, there still remains a fufficient quantity for the use of man.

Thus God, like a tender parent, provides not only for the fupport of his creatures, but alfo for their pleafure. Shall we not, then, be highly blameable if the enjoyment of the bleffings, which we owe to the munificence of our Creator, does not produce in us grateful reflections, and thus fanctify the pleafures of autumn ?

It is also a proof of the wisdom and goodness of the Creator that the weather grows gradually cold. Were the earth *fuddenly* to be deprived of the fummer's heat, it would be fatal to our gardens and fields. All plants would perifh. Spring would produce no flowers, nor fummer any fruit. It is by no means, therefore, of little confequence that, from the end of fummer to the beginning of winter, the heat should gradually give place to the cold : Thefe infensible changes were necessfary for the prefervation of the fruits

207

of the earth; and not for this only, but also for the prevention of the diforder, perhaps the deftruction, of the human frame.

With what kindnefs, therefore, has our Creator guarded our health and lives, by granting us fuch a temperature of air, during the months immediately following fummer, as prepares us, by degrees, to bear the increafe of cold without any bad effect !

There are also many other creatures who, if the winter were to come without any preparation on them, would be unable to endure it. Two thirds of the infects and birds would be deftroyed in one night : But now, by the gradual progrefs of cold, they have time to make the neceffary preparations against it. The increasing cold of autumn warns them to feek places where they may fleep quietly and fecurely during the fevere feason, or to remove into warmer countries.

The migration of birds is as aftonifhing as any thing in the whole compafs of nature; and in this we may different the wife and kind direction of Providence, and the wonderful means which God employs to preferve many birds, and point out their fubfiftence to them, when it fails in fome countries. They regularly affemble at a certain time, in order to depart all together; fcarcely a deferter is feen on the day that fucceeds their departure; and every circumftance

of their journey has fomething in it almost miraculous. We are at a lofs which most to admire, the force that fuftains them in fo long a paffage, or the order in which the whole is accomplished. It is truly wonderful that these creatures should know the most proper time for their paffage. The difference of heat and cold, and the want of food, may incline them to change their habitation ; but how comes it to pafs that, when the air is fo mild, that they might remain, and find food enough, they never fail to depart at the appointed time ? Or how do they know that they shall find food, and a proper degree of heat in other countries ? Shall we fuppofe that they have any remembrance of the country where they paffed a former winter; that they fee the land to which they go from their height in the air; that they follow the weather, and continue their flight till they find a climate fuitable to their prefent difpofition ; or, rather that, like shoals of fish, they pursue their prey ? Their food is infects ; with which, in fummer evenings, our atmosphere abounds ; and birds, who prey upon them, come hither in the fummer, becaufe our air is moifter than that of fome other countries, and therefore produces multitudes of these infects; but, on the approach of cold weather, they die, and then these birds neceffarily quit us, and follow their food.

But that these creatures, who are void of reafon, should know fo exactly the way they are to go; should do, what man cannot do, steer their courfe unerringly over feas and lands, and complete their long journey without affiftance, without a guide, without provisions, in the most regular order, through rains, and winds, and darknefs ; that they fhould fly in large companies, in order to be lefs liable to be driven out of their courfe by ftorms; and that, when the wind is contrary, they should wait until it changes, are circumftances really aftonifhing ; and they furnifh a remarkable inftance of a powerful inftinct imprefied on them by the Creator, who is their pilot and preferver. The confideration of these wonderful circumftances may employ, in a very pleafing manner, those whose hearts are disposed to the contemplation of the works of nature, and raife them to ftill nobler views ; to the adoration of Him from whom these creatures have received their faculties, and who has prepared and combined fo many things for the fupport and increase of this part of his creation.

This, likewife, is the feafon in which great part of the food for ourfelves, and many other creatures, is committed to the earth. The farmer now fows his winter grain, and leaves it to corruption, to the rain, the ftorms and the fun,

and knows not what will be the event : for, after all his labors, man can do nothing, but as an inftrument in the hand of Providence, towards the production of a plentiful harvest, or even of a fingle ear of corn. " Except the Lord blefs the ground, your labor is but loft that till it; it is in vain that ye hafte to rife early, late take reft, and eat the bread of carefulnefs ;" if God does not caufe his fun to fhine and his rain to fall in their feafon, your ftrength, in the very just reprefentation of the prophet, is but " to fit ftill." Man foweth, but God giveth the increase ; and, when men have done all that is in their power, God fupplieth whatever is beyond their ability. In the winter, whilft the hufbandman resteth from his labors, the Almighty covereth the precious feed, as with a garment ; deftroys, by froft, the weeds that would opprefs the rifing ftalk, or draw off its nourifhing fap; and caufeth it in returning fpring, gradually, to fpread a beautiful verdure over the face of the earth, giving the promife of a plentiful harvest. In the fummer, he warms it by the beams of the fun, and refreshes it by rain. Thus all nature, in every feafon, tends to the general good, and the fruitfulnefs of the earth, under the direction of the God of feafons. The more ftrongly to imprefs you with the conviction of this important truth,

God is fometimes pleafed to difappoint your expectations; by first fending, as the effect of your industry, a plentiful crop, and then, as a punishment for your ungrateful inattention to his Providence, denying you the opportunity to " eat thereof."

And, furely, when creatures forget their dependence upon their Creator, it is proper that they fhould be awakened to a fenfe of their duty by chaftifements affecting them in the very inftance of their forgetfulnefs and ingratitude; to convince them that the fuccefs of their labors depends entirely upon Providence; and that, although the fruits of the earth may be called their's, the feafons for gathering them are God's. Let us therefore, when we fee the fruits of the earth brought to maturity, and provision made for our support through another year, direct our grateful thoughts to that Being on whom we conftantly depend, and from whofe unceafing bounty we derive all our fupplies. He daily loadeth us with benefits ; but the bounty of harvest is too rich a bleffing to be daily beffowed. This comes only in its "appointed weeks." Let it be received with thankfgiving and joy : and celebrate the praifes of that ever gracious Providence who replenished our granaries with corn, loaded our trees with fruit, and crowned with plenty the autumnal months !

# HARVEST HYMN.

- " Brown o'er the wide extended fields " The heavy harvest waves;
- " Its treafure to the reaper yields, " And forms the ponderous fheaves.
- " The loaded flack, the fpacious barn, " Receive the plenteous flore ;
- " The bleffings of the coming year, " The riches of the poor.
- " Now, grateful for the bounty given, " Let conftant thanks arife,
- " For every blifs that falls from heaven, " Each hope beyond the fkies !"

Our fields crowned with fruits and with corn, are a hymn to the Lord. The joy that fparkles in the eyes of the farmer is a hymn to the God of nature. It is he who makes the earth produce bread, and he that loads us with bleffings. Let us affemble together, and celebrate the goodnefs of the Lord. Let his praife be evermore the fubject of our fong. Let us hearken unto the words he fpeaks to us, from the bofom of our fertile fields. "The year will crown thee with bleffings, O world ! Thy happinefs is my work : the crops and the harveft are the effects of my power. The rich meadows, and the hills

covered with corn, are mine." Yes, Lord, we behold thy grandeur, and we feel the value of thy favors. It is through thee that we exist : life and food are the gifts of thy hands.

We will rejoice in thy bleffings ; and our children will repeat after us : the God of heaven is our Father, the Lord, the almighty Lord is God ! Praife waiteth for thee O God, and unto thee fhall the vow be performed. Thou makeft the outgoings of the morning and evening to rejoice. Thou vifiteft the earth and watereft it. Thou enricheft it with the dew, and cheereft it with the fun. Thou prepareft the ridges thereof, and they are fruitful ; and the vallies are covered over with corn. Thou bleffeft the labors of man, and crowneft the year with thy goodnefs !

stapped and some and a local state

the second se

# CONTEMPLATIONS ON THE WINTER. REFLECTIONS ON THE WINTER. " Ch WINTER ! ruler of the invested year ! " Thy fcatter'd hair with fleet like afhes fill'd, " Thy breath congeal'd upon thy lips, thy cheeks " Fring'd with a beard made white with other fnow. \* Than those of age; thy forehead wrapt in clouds, " A leaflefs branch thy fceptre, and thy throne " A fliding car, indebted to no wheels, " But urg'd by ftorms along its flippery way : " I love thee, all unlovely as thou feem'ft,

" And dreaded as thou art !"

COWPER.

F we were to examine the works of the Creator more attentively than we do, we fhould find, even at this feafon of the year, many reafons to rejoice in his goodnefs, and to praife the wonders of his wifdom. Few perfons are fo infenfible as not to feel emotions of pleafure and gratitude when the fpring, the fummer, and autumn, richly difplay the bounties and the bleffings of Heaven ; but, when they fee the trees ftripped of their fruit, and the fields without verdure ; when the bleak winds whiftle around their dwellings; when "God giveth fnow like wool, and

fcattereth the hoar froft like afhes," their hearts are feldom affected by gratitude.

The other feafons, the value of which is fo little felt whilft they pafs, are often extravagantly commended in the winter, when they can be no longer enjoyed. Such is the too common difposition of men; they do not efteem the bleffings they posses as they ought, nor know their value, until they are deprived of them.

But is it indeed true that the fpring, the fummer, and the autumn alone deferve our attention and praife; and that winter is deprived of the bleffings of Heaven, and void of motives to gratitude and piety ?

If we could fee the chain of Providence which links all nature, great would be our admiration of the wifdom and goodnefs of its Author. But, however incapable we are of forming a judgment of the whole of the Creator's works, the little we do underftand of them gives us abundant reafon to acknowledge that the government of God is infinitely wife and good. Winter is a part of the Creator's plan; and, if we confider it ferioufly, we fhall find great reafon, even in winter, to praife our conftant benefactor.

Millions of rational creatures, difperfed over the different countries of the world, are provided, at this feafon, with all the neceffaries of life. But we must not confine the wifdom and good-

nefs of God to mankind ; his care, during the winter, extends to animals far more in number than the rational creatures that inhabit the earth, who find their food on the furface and in the bofom of the earth, in the fields, the forefts, and mountains, in caves, and the hollow parts of rocks, in the rivers and the feas : and, however wonderful the prefervation of mankind may be, we muft confefs that the care of Providence towards animals is a ftill more aftonifhing proof of the wifdom, power, and goodnefs of God ; who " openeth his hand, and giveth unto all his creatures their meat in every feafon."

That the prodigious number of animals which the world contains fhould find food and habitation during the fummer is not, perhaps, fo furprifing; but that, in this feafon of the year, when the earth feems exhaufted by its fruitfulnels, the fame number of creatures fhould continue to exift is truly aftonifhing.

To guard animals againft the ufual feverity of the weather, Providence has furnifhed moft of them with a covering which enables them to endure the cold. Some are covered with hair; fome with fur; others with feathers; and many with fcales and fhells. Each animal has what beft fuits it; nothing unneceffary, nothing wanting; and every thing fo complete, even in the loweft creature, that all the art of man

cannot imitate it. Many animals alfo, when the cold obliges them to quit their fummer dwellings, find a retreat in "clefts of the rocks" and caves; whither fome of them carry beforehand the food which is to fupport them during winter. This cannot be done from forefight in thefe creatures, for that would be to fuppofe them endowed with more underftanding than they poffefs; it must therefore be in confequence of the direction of a fuperior power, whofe views they fulfil without knowing it.

There are alfo animals who find their fubfiftence under fnow and ice; and, probably, many means made use of by Providence for the prefervation of his creatures are unknown to us. One circumstance is particularly remarkable ; namely, that feveral animals pafs the winter in a profound fleep. Their bodies feem to be fo formed that the cold benumbs them, and they fall into a found fleep ; which continues till the return of heat opens the earth, caufes their neceffary food to fpring, and awakens them from their heavinefs. How admirable is the wifdom of God, who has pointed out to thefe creatures the places where they may fleep in fafety their night of winter, when they can no longer find food; and who revives them, when the featon of their new life arrives !

Can we, on confidering thefe things, fail to adore the gracious Father of all, to whom every animal, from the elephant to the mite, owes his dwelling, his food, and life ? Let this confideration ftrengthen our confidence in our Heavenly Father. Oh " ye of little faith," anxious, reftlefs, and difcontented, paufe and reflect on the goodnefs with which the Almighty fuftains the beafts of the field and the foreft, the birds of the air, and the fifnes of the fea; all of whom find, in all feafons, proper food and habitations; and then afk yourfelves whether he who fhews himfelf fo great and good in finaller objects will neglect the more important; whether God, who does not difdain to provide for the worm, will forget mankind ? And let this confideration teach you to imitate the generous care of Divine Providence, in contributing not only to the happinefs of your fellow creatures, but even to the welfare of all that lives. They, who are not corrupted by bad habits, are naturally inclined to compaffion towards every thing that has life and feeling. This difpofition does honor to man ; and he who has rooted it out has but one ftep more to make ; which is, to refuse to his fellow creatures the compassion he denies to brutes, and he will then be a monster.

But the goodness of God in the appointment of this feason will appear ftill more plainly, if we

confider that winter, fo far from being prejudicial to the fruitfulnefs of the earth, is very favorable to it; and that this is the feafon of reft fo neceffary to nature.

In the preceding months fhe exerted herfelf in fulfilling the defigns of the Creator by laboring in the fervice of his creatures : Like a good mother of a family, fhe employed herfelf from the morning to the evening of the year in procuring for her children the neceffaries, the conveniences, and comforts of life. Tired of fo many cares fhe now refteth ; but it is only to collect new force to be employed again for the benefit of the world ; to prepare in filence a new creation, and make the neceffary difpositions that the earth may recover, at the end of a few months, the children fhe has loft. This repose is not lefs neceffary to us, or lefs worthy of Providence, than the activity fhe fhews in fpring and in fummer; and the Almighty, in granting reft to the earth, enriches man with bleffings, to which the winter rains, however difagreeable they may feem, very much contribute. They are the fource of all the beauties and treasures which the fpring and the fummer lavish on us, and prepare for a fruitful and plentiful year; they revive the earth, fill the rivers, and furnish the fprings with water ; the bleffings therefore

which we receive from them are as innumerable as the drops which fall from the clouds ; and for this reafon, inftead of murmuring on account of the winter rains, as inconvenient and unpleafing, we fhould be most thankful, confidering them as the caufes of fruitfulness; for the earth requires not only reft, but moisture, to recover its ftrength; and to this gracious purpose does the fnow also contribute.

From appearances we might be inclined to think that *fnow* cannot be ufeful to the earth; but the experience of all ages has taught us that nothing better fecures corn, plants and trees from the bad effects of cold than fnow. The *falt* alfo, which fnow contains, when foftened by the fun, and diffolved gradually, is fuppofed to enrich the earth more than rain, or other manures; agreeably to the words of the fcripture, "The rain cometh down and the fnow from Heaven, and returneth not thither, but watereth the earth, and maketh it bring forth and bud, that it may give feed to the fower, and bread to the eater."

We all of us often fee fnow fall, but very few of us, it is to be feared, confider its nature or its ufe. Such, however, is the fate of many things which we have almost daily before our eyes, though we receive great advantages from them. Let us learn to be wifer; and reflect that God

hath ordained that the rain, which in the fummer cools and refreshes the earth, should, in the winter, fall in the form of soft flakes of wool, and fcreen the fruits of it from the inclemency of the cold.

And, as God "giveth fnow like wool," fo doth he alfo "fcatter the hoar froft like afhes." When the dew falleth in a cold night, it freezes, and the face of the earth is covered with the hoar froft; which lies, like afhes, upon the corn and grafs, and hangs on plants, and boughs of trees, very pleafing to the eye, though very piercing where it falls. This alfo cometh from God, "who is wonderful in counfel and excellent in working."

But although the earth, at this feafon, may be compared to a mother who has been deprived of those children from whom she had the best hopes, she is not bereaved of all her children. Many vegetables preferve their verdure in winter, and lote none of their fummer ornaments; and they are emblems of that virtue which is immortal, and furvives all outward beauty; emblems of that most respectable character, a benevolent old man; who, in the winter of his life resembles those plants which flourish with undecaying verdure; in whom a mild cheerfulnes, the happy remains of his spring time, is feen; whose virtues make ample amends for the ravages which age may have made on his perfon, and whofe wifdom, integrity, and experience, ferve for examples and leftons to all around him.

We have reason also to praise God for winter, which is certainly very ufeful; and, even fuppofing that its advantages were not fo apparent, it would be fufficient for us to know that winter is the work of the Creator, and that all which comes from him must be for the best. They also who are defirous of making use of every opportunity to improve their hearts, will gladly be reminded of the obligation they are under of employing even their winter days fo as to become days of comfort to their fouls. It is eafy to prove how agreeable as well as advantageous this duty would. be. How rational and cheerful would our piety be, if each new appearance of nature led us to trace it up to our Father and our God ! When we fee the earth covered with fnow, the rivers clogged with ice, the trees ftripped of their leaves, and the whole face of nature barren and defolate, let us reflect on the defign of the Creator in thus ordaining it, and we shall foon be convinced that every thing is planned with wifdom, and that all the laws of Providence combine for the general good.

There are many objects at this feafon, which may furnifh us with ufeful reflections, and not only agreeably employ our minds, but amend our hearts. The fhortnefs of the days fhould lead us to reflect on the fhort duration of human life; and on the wifdom, the importance, and neceffity of making a good ufe of our time : and the fuddennefs with which night fometimes comes on, and interrupts us in the midft of our employments, fhould teach us to be careful that death does not furprife us when we leaft expect it, in the midft of our fchemes for many years to come.

As nature, after fulfilling the defigns of the Creator, refteth from her labors during winter; fo man, whofe provision is made, and whofe wants fupplied, enjoys a repose fuitable to the feason. Happy they who employ it in cultivating their minds, improving their hearts, and laying up the treasure of good works.

Does the winter contribute to our health ? Let us then not be fo imprudent as to make that feafon difagreeable, or painful, which may be the fource of the pureft pleafures; nor deftroy, by intemperance, that health which the Lord of Nfe would preferve with fo much goodnefs.

Have we a warm dwelling ? Do we enjoy the conveniences and the comforts of life ? Should not this teach us to confider our poor fellow

P 2

creatures; fome of whom, fore pierced by wintry winds, have, perhaps, neither food, nor fire, nor raiment ; are ftretched upon the bed of ficknefs, and too modeft to proclaim their wants? Winter renders beneficence to the poor the more neceffary, becaufe it increafes their wants; and we give a double value to our kindnefs when we beftow it feafonably. The more the feverity of the feafon increases, the more ready we should be to relieve the neceffitous, and to pour into the bofom of poverty all that we can fpare. It is our duty to foften the calamities of our diftreffed fellow creatures, to give them of our abundance, or fhare our little with them. Recollect that the mercy and goodnefs of the God of feafons continually attend you through all the changing fcenes of life; that if you are happy in your health, your fortune, and character, you owe all to him; that it is he who "caufeth one man to differ from another :" and that the best return you can make for his mercies and bleffings, is to foften, as much as you can, the diftreffes of your fellow creatures, and to permit no one to fink under mifery, which it is in your power to relieve.

DUTY OF COLLECTING OUR THOUGHTS IN WINTER.

" Now, all amid the rigors of the year,

" In the wild depth of WINTER, while without

- " The ceafeless winds blow ice, be my retreat,
- " A rural, fhelter'd, folitary fcene;
- " Where ruddy fire and beaming tapers join
- " To cheer the gloom. There studious let me fit."

THOMPSON.

225

1 HOSE who are folicitous to make use of every opportunity to improve their minds will gladly be reminded of the obligations which they are under of employing even their winter days, in useful study and ferious meditation. It is easy to prove how agreeable as well as advantageous this duty may be made. How perfect would our piety become if every change, every new appearance of nature led us to trace it up to God, whose glory is as manifest in winter as in any other feason !

"In the fummer feafon the warm temperature of the air, the beauty of a vivid foliage, and the fweet finiles of univerfal nature, allure men from their fludious retirement, and tempt them to roam in the funfhine from flower to flower like the butterfly. But when the days are gradually contracted, and the cold weather caufes the

fwallow to wing her way to more genial climes, the gaudy infect to retire to its warm and fafe concealment, and the leaf to affume the yellow and ruffet tinge of autumnal decay, and at length to drop from its parent branch, the man of fentiment fympathizes with the fcene around him, fhrinks under his roof and into himfelf; and feeks that folace which the funny hill and the verdant mead no longer afford him, at the fire fide, in the converfe of thofe whom he loves or efteems; or in an elegant and philofophic folitude, reading, writing, and contemplating the productions of art during the repofe of nature."\*

Now is the time to open the volumes of fcience, and ftore the mind with the leffons of wifdom : to perufe the inftructive pages of hiftory, and thence draw encouragement to virtue and diffuafives from vice, by feeing their effects in the example and fate of others.

This feafon of leifure and retirement fhould alfo be improved to the purpofes of examining our own hearts and lives. Thus let us improve it. Let us correct our errors, and ftrengthen the principles, the difpositions, and habits of goodnefs. Calling in our thoughts, fo apt to wander, let us

\* The compiler has taken the liberty of introducing the above paragraph from Dr. Knox's Winter Evening Lucubrations.

employ them to worthy purpofes; engage them in the purfuits of fcience, or exercife them in the all important concerns of religion. Let us realize the vanity of life; arrange our temporal and fpiritual affairs; gradually detach our affections from the world; and prepare for a fuperior region, beyond the ftorms of wintry time, and the uncomfortable vicifitudes and blighting difafters of mortality. HYMN OF PRAISE TO GOD.

O let for all, our grateful praife arife,
To him whofe mandate fpake the world to form :
SPRING'S lively bloom and SUMMER'S cheerful fkies,
AUTUMN'S rich field, and WINTER'S healthful fform !"
SCOTT, OF AMWELL.

ALL the heavenly hoft glorify the power and majefty of the Creator, and all the globes which roll in the immenfe expanfe celebrate the wifdom of his works. The fea, the mountains, and the woods, created by a fingle act of his will, are the harbingers of his love, the heralds of his power. Shall I alone be filent ? Shall I not attempt to offer up thankfgiving though the pure fpirits themfelves can offer but imperfect praife ?

By what power do thofe millions of funs fhine with fo much fplendor ? Who directs the wonderful courfe of the fpheres ? What chain unites them ? What force animates them ? It is thy breath O Lord ! It is thy almighty word. Thou art all in all. Thou calledft the worlds, and they obeyed. Then was our globe produced. The birds and the fifh, the cattle and the wild beafts of the field, and laftly man himfelf came to in-

220

habit it and rejoice. It is through thee, that the hand of fpring fpreads the green lawn under our feet. It is thou that gildeft the corn, and giveft purple to the grape; the fummer glows with thy goodnefs; autumn is loaded by thy bounty; and winter fupplied with thy flores.

Through thee the mind of man penetrates the fyftem of the univerfe, and becomes a proficient in the knowledge of thy works; is fufceptible of the pleafure, and participates the bounty of nature. In thee we live and move and have our being. O may we live to thee, and with thee forever.



RAPIDITY WITH WHICH LIFE PASSES AWAY.

---- " Behold, fond man !

- " See here thy pictur'd life ; pafs fome few years
- " Thy flowery Spring, thy Summer's ardent ftrength,
- " Thy fober Autumn fading into age,
- " And pale concluding Winter comes at laft
- " And fhuts the fcene."

THOMPSON.

Our life is short and transitory. Let us confider with what fwiftness the days, the weeks, the months, and the years have paffed, or rather flown away. They were over even before we perceived it. Let us endeavor to recall them to mind and to follow them in their rapid flight. Is it poffible to give an account of the different æras? If there had not been in our lives certain very remarkable moments, which made impreffion on our minds, we fhould be ftill lefs able to recollect the histories of them. How many the years of our infancy, of which we can fay nothing but they have glided away ? How many others have paffed in the thoughtlefsnefs of youth; during which, mifled by our inclinations, and given up to pleafure, we had neither the wifh,

nor the time, to look into ourfelves ? To thefe years fucceeded those of a riper age, more capable of reflection. We then thought it was time to change our way of life, and to act like reafonable beings, but the bufinefs of the world took poffeffion of us to fuch a degree that we had no leifure to reflect on our past lives. Our families increafed, and our cares and endeavors to provide for them increafed in proportion. Infenfibly the time draws nigh when we fhall arrive at old age; and perhaps, even then, we fhall neither have opportunity nor force of mind to recollect the paft, to reflect upon the period to which we are come, upon what we have done, or neglected to do ; in a word, to confider the purposes for which we were placed in this world. In the mean time how are we certain of ever attaining advanced age ? A thousand accidents break the tender thread of life before it comes to its full length. The child, just born, falls and is reduced to dust. The young man, who gave the highest hopes, is cut down in the age of bloom and beauty ; a violent illnefs, an unfortunate accident lays him in the grave. Dangers and accidents multiply with years; negligence and excess lay the feeds of maladies, and difpofe the bodies to catch those that are epidemical. The laft age is ftill more dangerous. In a word, half of those who are

born are carried out of the world, and perifh in the fhort fpace of their first feventeen years. Behold the concife, but faithful hiftory of life ! O may we employ those days, fo short, and fo important, in learning how to number them, and to redeem the time which flies fo fwiftly away ! Even whilft we make thefe reflections fome moments are flown. What a precious treasure of days and hours should we not lay up, if, from the moments which we have to difpose of, we often devoted fome of them to fo useful a purpose ! Let us think of it feriously; every instant is a portion of life impoffible to be recalled, but the remembrance of which may be either the fource of joy or forrow. What heavenly enjoyment it is to be able to look happily on the paft, and to fay to one's felf with truth, "I have lived fo many years, during which I have gained much knowledge, enjoyed much happinefs, and done much good." We fhould be able to hold this language, if we fulfilled the end for which life was given us; if we devoted the fhort fpace of time to the great interefts of eternity.

INSTABILITY OF EARTHLY THINGS.

----- " Life fpeeds away

" From point to point, though feeming to ftand ftill,

" The cunning fugitive is fwift by ftealth ;

" Too fubtle is the movement to be feen ;

"Yet foon man's hour is up, and we are gone."

YOUNG.

THERE is nothing in nature that is not liable to change. Every thing is uncertain and frail. Nothing is durable enough to remain always like itfelf. The moft folid bodies are not fo impenetrable, nor their parts fo clofely united, as to be fecure from diffolution. Each particle of matter infenfibly alters its form. How many changes has each of our bodies undergone fince its formation ! Every year it has loft fomething of what made a part of itfelf, and has acquired new matter from vegetable and animal fubftances.

Every thing on earth increafes and decreafes by turns; but with this difference, that the changes do not operate fo quickly in fome bodies as in others. The celeftial globes appear to be ftill the fame as at the moment of their creation, and they are, perhaps, the moft invariable of all bodies.

Those however who have observed them with attention, perceive that fome stars have disappeared, and that the fun has spots which change, and thus they prove that it is not constantly the same. Its motion also makes it liable to variation; and though it is never extinguissed, it has been obfoured by fogs, clouds, and even by internal revolutions. This is all we can know of it at the immeasurable distance there is between us. How many other external, as well as internal changes, should we discover, were we nearer !

If we are more ftruck with the inftability of earthly things, it is becaufe they are within our view. And how frail are thefe ! How liable to change ! Each object continues to look like itfelf, and yet how different in reality is it from what it was ? We daily behold things taking new forms ; fome growing, others diminishing and perishing. This year, which will foon be at an end, affords undeniable proofs of it. In each one's own little circle he must have experienced many revolutions. Several of those we had known for many years are no more. Many perfons whom we have feen rich are become poor, or are at least but in indifferent circumstances. If we examine ourfelves alfo, we shall find a difference in many respects. Have not our health and activity diminished ? And are

not all thefe things fo many warnings of our approach towards that great and final revolution which death will operate upon us. Befides, there are many changes which may ftill take place in the fhort term of life allowed us. We may foon become poor, or fick ; we may experience the infidelity of friends, or the approaches of haftening diffolution. Many things certainly may happen which it is at prefent impoffible to forefee. Such reflections must inevitably opprefs and fink us to defpair, if religion were not our fupport and confolation. But this leads us to look up to the only invariable, everlafting Being, whofe very nature is immutability, and whofe mercy has no end. Full of confidence therefore in his unchangeable goodnefs, let us fubmit with refignation to all the changes of this transitory world.

### CLOSE OF THE YEAR.

"Now I will climb you rough rock's giddy height, "That o'er the ocean bends his brow fevere; "And, as I mufe on time's neglected flight, "Wait the laft funfhine of the parting year."

MERRY.

THE close of the year leads me to reflections which, however important they may be, do not always occupy me as they ought. In order to feel more fenfibly how fhort the term of life is, I will examine the ufe I have made of my paft days; though I have reafon to believe it will prove a fubject of humiliation to me. I first recal to my mind those days the use of which it was not in my power to command. How many hours were then employed in mere bodily wants ? How many more have paffed in trifling occupations of no fervice to the mind ? Thus in flightly looking over the use made of these years, I difcover a multitude of days loft to the immortal foul, which inhabits this body of clay; and, after thefe deductions, what will remain which I may juftly fay have been employed for real happinefs? Out of 365 days, it is plain, that I can fcarce reckon fifty.

237

And of the little that remains of time, how much do I lofe by my own fault and weaknefs. How many days have been facrificed to vice and folly. Perhaps many of those granted me for reflection have been devoted to the world, to vanity, idlenefs, and falfe pleafures. Perhaps they may have been profaned by impurity, envy, jealoufy, flander, and other vices, which betray a heart void of refpect for God and charity to our neighbor. Even when infpired with a defire to walk in his paths, how much time is irrecoverably loft in thoughtleffnefs, indifference, doubts, anxiety, want of temper, and all those infirmities which are the effects of frailty. Alas ! how fwiftly does the little space of time we can difpofe of fly away ! A year paffes almost infenfibly; and yet a year is of great confequence to a Being whofe life is reckoned by hours. Before we have well thought of it, a year is gone. When we recollect how little of it we may have. fpent fuitably to the purpofes of our creation, we may well with to recal those hours which were ill employed. But it is in vain. The year, with the good and bad actions which have marked it, are fwallowed up for ever in eternity.

Let this awful thought influence our minds fo as to redeem the time we have loft, by making the wifeft, the most virtuous improvement of what remains.

FINIS.



NEATLY AND REASONABLY EXECUTED,

By SAMUEL ETHERIDGE,

OPPOSITE WARREN-TAVERN,

CHARLESTOWN.









