

ADVERTISEMENT.

The general design of the following sheets is to inlist Imagination under the banner of Science; and to lead her votaries from the looser analogies, which dress out the imagery of poetry, to the stricter, ones which form the ratiocination of philosophy. While their particular design is to induce the ingenious to cultivate the knowledge of Botany, by introducing them to the vestibule of that delightful science, and recommending to their attention the immortal works of the celebrated Swedish Naturalist, LINNEUS.

In the first Poem, or Economy of Vegetation, the physiology of Plants is delivered; and the operation of the Elements, as far as they may be supposed to affect the growth of Vegetables. In the second Poem, or Loves of the Plants, the Sexual System of Linneus is explained, with the remarkable properties of many particular plants.

APOLOGY.

It may be proper here to apologize for many of the subsequent conjectures on some articles of natural philosophy, as not being supported by accurate investigation or conclusive experiments. Extravagant theories however in those parts of philosophy, where our knowledge is yet imperfect, are not without their use; as they encourage the execution of laborious experiments, or the investigation of ingenious deductions, to confirm or refute them. And since natural objects are allied to each other by many affinities, every kind of theoretic distribution of them adds to our knowledge by developing some of their analogies.

The Rosicrucian doctrine of Gnomes, Sylphs, Nymphs, and Salamanders, was thought to afford a proper machinery for a Botanic poem; as it is probable, that they were originally the names of hieroglyphic figures representing the elements.

Many of the important operations of Nature were shadowed or allegorized in the heathen mythology, as the first Cupid springing from the Egg of Night, the marriage of Cupid and Psyche, the Rape of Proserpine, the Congress of Jupiter and Juno, Death and Resuscitation of Adonis, &c. many of which are ingeniously explained in the works of Bacon, Vol. V. p. 47. 4th Edit. London, 1778. The Egyptians were possessed of many discoveries in philosophy and chemistry before the invention of letters; these were then expressed in hieroglyphic paintings of men and animals; which after the discovery of the alphabet were described and animated by the poets, and became first the deities of Egypt, and afterwards of Greece and Rome. Allusions to those fables were therefore thought proper ornaments to a philosophical poem, and are occasionally introduced either as represented by the poets, or preserved on the numerous gems and medallions of antiquity.

TO

THE AUTHOR

OF THE

POEM ON THE LOVES OF THE PLANTS.

BY THE REV. W.B. STEPHENS.

Oft tho' thy genius, D— —! amply fraught
With native wealth, explore new worlds of mind;
Whence the bright ores of drossless wisdom brought,
Stamp'd by the Muse's hand, enrich mankind;

Tho' willing Nature to thy curious eye,
Involved in night, her mazy depths betray;
Till at their source thy piercing search descry
The streams, that bathe with Life our mortal clay;

Tho', boldly soaring in sublimer mood
Through trackless skies on metaphysic wings,
Thou darest to scan the approachless Cause of Good,
And weigh with steadfast hand the Sum of Things;

Yet wilt thou, charm'd amid his whispering bowers
Oft with lone step by glittering Derwent stray,
Mark his green foliage, count his musky flowers,
That blush or tremble to the rising ray;

While FANCY, seated in her rock-roof'd dell,
Listening the secrets of the vernal grove,
Breathes sweetest strains to thy symphonious shell,
And gives new echoes to the throne of Love.

Repton, Nov. 28, 1788.

Argument of the First Canto.

The Genius of the place invites the Goddess of Botany. 1. She descends, is received by Spring, and the Elements, 59. Addresses the Nymphs of Fire. Star-light Night seen in the Camera Obscura, 81. I. Love created the Universe. Chaos explodes. All the Stars revolve. God. 97. II. Shooting Stars. Lightning. Rainbow. Colours of the Morning and Evening Skies. Exterior Atmosphere of inflammable Air. Twilight. Fire-balls. Aurora Borealis. Planets. Comets. Fixed Stars. Sun's Orb, 115. III. 1. Fires at the Earth's Centre. Animal Incubation, 137. 2. Volcanic Mountains. Venus visits the Cyclops, 149. IV. Heat confined on the Earth by the Air. Phosphoric lights in the Evening. Bolognian Stone. Calcined Shells. Memnon's Harp, 173. Ignis fatuus. Luminous Flowers. Glow-worm. Fire-fly. Luminous Sea-insects. Electric Eel. Eagle armed with Lightning, 189. V. 1. Discovery of Fire. Medusa, 209. 2. The chemical Properties of Fire. Phosphorus. Lady in Love, 223. 3. Gunpowder, 237. VI. Steam-engine applied to Pumps, Bellows, Water-engines, Corn-mills, Coining, Barges, Waggon, Flying-chariots, 253. Labours of Hercules. Abyla and Calpe, 297. VII. 1. Electric Machine. Hesperian Dragon. Electric kiss. Halo round the heads of Saints. Electric Shock. Fairy-rings, 335. 2. Death of Professor Richman, 371. 3. Franklin draws Lightning from the Clouds. Cupid snatches the Thunder-bolt from Jupiter, 383. VIII. Phosphoric Acid and Vital Heat produced in the Blood. The great Egg of Night, 399. IX. Western Wind unfettered. Naiad released. Frost assailed. Whale attacked, 421. X. Buds and Flowers expanded by Warmth, Electricity, and Light. Drawings

with colourless sympathetic Inks; which appear when warmed by the Fire, 457. XI. Sirius. Jupiter and Semele. Northern Constellations. Ice-islands navigated into the Tropic Seas. Rainy Monsoons, 497. XII. Points erected to procure Rain. Elijah on Mount-Carmel, 549. Departure of the Nymphs of Fire like sparks from artificial Fire-works, 587.

THE ECONOMY OF VEGETATION.

CANTO I.

STAY YOUR RUDE STEPS! whose throbbing breasts infold
The legion-fiends of Glory, or of Gold!
Stay! whose false lips seductive simpers part,
While Cunning nestles in the harlot-heart! —
5 For you no Dryads dress the roseate bower,
For you no Nymphs their sparkling vases pour;
Unmark'd by you, light Graces swim the green,
And hovering Cupids aim their shafts, unseen.

"But THOU! whose mind the well-attemper'd ray
10 Of Taste and Virtue lights with purer day;
Whose finer sense each soft vibration owns
With sweet responsive sympathy of tones;
So the fair flower expands it's lucid form
To meet the sun, and shuts it to the storm; —
15 For thee my borders nurse the fragrant wreath,
My fountains murmur, and my zephyrs breathe;
Slow slides the painted snail, the gilded fly
Smooths his fine down, to charm thy curious eye;
On twinkling fins my pearly nations play,
20 Or win with sinuous train their trackless way;
My plummy pairs in gay embroidery dress'd
Form with ingenious bill the pensile nest,
To Love's sweet notes attune the listening dell,
And Echo sounds her soft symphonious shell.

[*So the fair flower.* l. 13. It seems to have been the original design of the philosophy of Epicurus to render the mind exquisitely sensible to agreeable sensations, and equally insensible to disagreeable ones.]

25 "And, if with Thee some hapless Maid should stray,
Disasterous Love companion of her way,
Oh, lead her timid steps to yonder glade,
Whose arching cliffs depending alders shade;
There, as meek Evening wakes her temperate breeze,
30 And moon-beams glimmer through the trembling trees,
The rills, that gurgle round, shall soothe her ear,
The weeping rocks shall number tear for tear;
There as sad Philomel, alike forlorn,
Sings to the Night from her accustomed thorn;
35 While at sweet intervals each falling note
Sighs in the gale, and whispers round the grot;
The sister-woe shall calm her aching breast,
And softer slumbers steal her cares to rest. —

[*Disasterous Love.* l. 26. The scenery is taken from a botanic garden about a mile from Lichfield, where a cold bath was erected by Sir John Floyer. There is a grotto surrounded by projecting rocks, from the edges of which trickles a perpetual shower of water; and it is here represented as adapted to love-scenes, as being thence a proper residence for the modern goddess of Botany, and the easier to introduce the next poem on the Loves of the Plants according to the system of Linneus.]

"Winds of the North! restrain your icy gales,
40 Nor chill the bosom of these happy vales!
Hence in dark heaps, ye gathering Clouds, revolve!
Disperse, ye Lightnings! and, ye Mists, dissolve!
— Hither, emerging from yon orient skies,
BOTANIC GODDESS! bend thy radiant eyes;

45 O'er these soft scenes assume thy gentle reign,
Pomona, Ceres, Flora in thy train;
O'er the still dawn thy placid smile effuse,
And with thy silver sandals print the dews;
In noon's bright blaze thy vermil vest unfold,
50 And wave thy emerald banner star'd with gold."

Thus spoke the GENIUS, as He stept along,
And bade these lawns to Peace and Truth belong;
Down the steep slopes He led with modest skill
The willing pathway, and the truant rill,
55 Stretch'd o'er the marshy vale yon willowy mound,
Where shines the lake amid the tufted ground,
Raised the young woodland, smooth'd the wavy green,
And gave to Beauty all the quiet scene. —

She comes! — the GODDESS! — through the whispering air,
60 Bright as the morn, descends her blushing car;
Each circling wheel a wreath of flowers intertwines,
And gem'd with flowers the silken harness shines;
The golden bits with flowery studs are deck'd,
And knots of flowers the crimson reins connect. —
65 And now on earth the silver axle rings,
And the shell sinks upon its slender springs;
Light from her airy seat the Goddess bounds,
And steps celestial press the pansied grounds.

Fair Spring advancing calls her feather'd quire,
70 And tunes to softer notes her laughing lyre;
Bids her gay hours on purple pinions move,
And arms her Zephyrs with the shafts of Love,
Pleased GNOMES, ascending from their earthy beds,
Play round her graceful footsteps, as she treads;
75 Gay SYLPHS attendant beat the fragrant air
On winnowing wings, and waft her golden hair;
Blue NYMPHS emerging leave their sparkling streams,
And FIERY FORMS alight from orient beams;

Musk'd in the rose's lap fresh dewes they shed,
80 Or breathe celestial lustres round her head.

[*Pleased Gnomes.* l. 73. The Rosicrucian doctrine of Gnomes, Sylphs, Nymphs, and Salamanders affords proper machinery for a philosophic poem; as it is probable that they were originally the names of hieroglyphic figures of the Elements, or of Genii presiding over their operations. The Fairies of more modern days seem to have been derived from them, and to have inherited their powers. The Gnomes and Sylphs, as being more nearly allied to modern Fairies are represented as either male or female, which distinguishes the latter from the *Auræ* of the Latin Poets, which were only female; except the winds, as *Zephyrus* and *Auster*, may be supposed to have been their husbands.]

First the fine Forms her dulcet voice requires,
Which bathe or bask in elemental fires;
From each bright gem of Day's refulgent car,
From the pale sphere of every twinkling star,
85 From each nice pore of ocean, earth, and air,
With eye of flame the sparkling hosts repair,
Mix their gay hues, in changeful circles play,
Like motes, that tenant the meridian ray. —
So the clear Lens collects with magic power
90 The countless glories of the midnight hour;
Stars after stars with quivering lustre fall,
And twinkling glide along the whiten'd wall. —
Pleased, as they pass, she counts the glittering bands,
And stills their murmur with her waving hands;
95 Each listening tribe with fond expectance burns,
And now to these, and now to those, she turns.

I. "NYMPHS OF PRIMEVAL FIRE! YOUR vestal train
Hung with gold-tresses o'er the vast inane,
Pierced with your silver shafts the throne of Night,

100 And charm'd young Nature's opening eyes with light;
 When LOVE DIVINE, with brooding wings unfurl'd,
 Call'd from the rude abyss the living world.
 "—LET THERE BE LIGHT!" proclaim'd the ALMIGHTY LORD,
 Astonish'd Chaos heard the potent word;—
 105 Through all his realms the kindling Ether runs,
 And the mass starts into a million suns;
 Earths round each sun with quick explosions burst,
 And second planets issue from the first;
 Bend, as they journey with projectile force,
 110 In bright ellipses their reluctant course;
 Orbs wheel in orbs, round centres centres roll,
 And form, self-balanced, one revolving Whole.
 —Onward they move amid their bright abode,
 Space without bound, THE BOSOM OF THEIR GOD!

[Nymphs of primeval fire. l. 97. The fluid matter of heat is perhaps the most extensive element in nature; all other bodies are immersed in it, and are preserved in their present state of solidity or fluidity by the attraction of their particles to the matter of heat. Since all known bodies are contractible into less space by depriving them of some portion of their heat, and as there is no part of nature totally deprived of heat, there is reason to believe that the particles of bodies do not touch, but are held towards each other by their self-attraction, and recede from each other by their attraction to the mass of heat which surrounds them; and thus exist in an equilibrium between these two powers. If more of the matter of heat be applied to them, they recede further from each other, and become fluid; if still more be applied, they take an aerial form, and are termed Gases by the modern chemists. Thus when water is heated to a certain degree, it would instantly assume the form of steam, but for the pressure of the atmosphere, which prevents this change from taking place so easily; the same is true of quicksilver, diamonds, and of perhaps all other bodies in Nature; they would first become fluid, and then aeriform by appropriated degrees of heat. On the contrary, this elastic matter of heat, termed Calorique in the new nomenclature of the French Academicians, is liable to become consolidated

itself in its combinations with some bodies, as perhaps in nitre, and probably in combustible bodies as sulphur and charcoal. See note on l. 232, of this Canto. Modern philosophers have not yet been able to decide whether light and heat be different fluids, or modifications of the same fluid, as they have many properties in common. See note on l. 462 of this Canto.]

[*When Love Divine*. l. 101. From having observed the gradual evolution of the young animal or plant from its egg or seed; and afterwards its successive advances to its more perfect state, or maturity; philosophers of all ages seem to have imagined, that the great world itself had likewise its infancy and its gradual progress to maturity; this seems to have given origin to the very antient and sublime allegory of Eros, or Divine Love, producing the world from the egg of Night, as it floated in Chaos. See l. 419. of this Canto.

The external crust of the earth, as far as it has been exposed to our view in mines or mountains, countenances this opinion; since these have evidently for the most part had their origin from the shells of fishes, the decomposition of vegetables, and the recrements of other animal materials, and must therefore have been formed progressively from small beginnings. There are likewise some apparently useless or incomplete appendages to plants and animals, which seem to shew they have gradually undergone changes from their original state; such as the stamens without anthers, and styles without stigmas of several plants, as mentioned in the note on Curcuma, Vol. II. of this work. Such is the halteres, or rudiments of wings of some two-winged insects; and the paps of male animals; thus swine have four toes, but two of them are imperfectly formed, and not long enough for use. The allantoide in some animals seems to have become extinct; in others is above tenfold the size, which would seem necessary for its purpose. Buffon du Cochon. T. 6. p. 257. Perhaps all the supposed monstrous births of Nature are remains of their habits of production in their former less perfect state, or attempts towards greater perfection.]

[*Through all his realms*. l. 105. Mr. Herschel has given a very subtle and curious account of the construction of the heavens with his discovery of some thousand nebulae, or clouds of stars; many of which are much larger collections of stars, than all those put togeth-

er, which are visible to our naked eyes, added to those which form the galaxy, or milky zone, which surrounds us. He observes that in the vicinity of these clusters of stars there are proportionally fewer stars than in other parts of the heavens; and hence he concludes, that they have attracted each other, on the supposition that infinite space was at first equally sprinkled with them; as if it had at the beginning been filled with a fluid mass, which had coagulated. Mr. Herschel has further shewn, that the whole sidereal system is gradually moving round some centre, which may be an opaque mass of matter, *Philos. Trans. V. LXXIV*. If all these Suns are moving round some great central body; they must have had a projectile force, as well as a centripetal one; and may thence be supposed to have emerged or been projected from the material, where they were produced. We can have no idea of a natural power, which could project a Sun out of Chaos, except by comparing it to the explosions or earthquakes owing to the sudden evolution of aqueous or of other more elastic vapours; of the power of which under immeasurable degrees of heat, and compression, we are yet ignorant.

It may be objected, that if the stars had been projected from a Chaos by explosions, that they must have returned again into it from the known laws of gravitation; this however would not happen, if the whole of Chaos, like grains of gunpowder, was exploded at the same time, and dispersed through infinite space at once, or in quick succession, in every possible direction. The same objection may be stated against the possibility of the planets having been thrown from the sun by explosions; and the secondary planets from the primary ones; which will be spoken of more at large in the second Canto, but if the planets are supposed to have been projected from their suns, and the secondary from the primary ones, at the beginning of their course; they might be so influenced or diverted by the attractions of the suns, or sun, in their vicinity, as to prevent their tendency to return into the body, from which they were projected.

If these innumerable and immense suns thus rising out of Chaos are supposed to have thrown out their attendant planets by new explosions, as they ascended; and those their respective satellites, filling in a moment the immensity of space with light and motion, a grander idea cannot be conceived by the mind of man.]

115 II. "ETHEREAL POWERS! YOU chase the shooting stars,
 Or yoke the volland lightnings to your cars,
 Cling round the aerial bow with prisms bright,
 And pleased untwist the sevenfold threads of light;
 Eve's silken couch with gorgeous tints adorn,
 120 And fire the arrowy throne of rising Morn.
 –OR, plum'd with flame, in gay battalion's spring
 To brighter regions borne on broader wing;
 Where lighter gases, circumfused on high,
 Form the vast concave of exterior sky;
 125 With airy lens the scatter'd rays assault,
 And bend the twilight round the dusky vault;
 Ride, with broad eye and scintillating hair,
 The rapid Fire-ball through the midnight air;
 Dart from the North on pale electric streams,
 130 Fringing Night's sable robe with transient beams.
 –OR rein the Planets in their swift careers,
 Gilding with borrow'd light their twinkling spheres;
 Alarm with comet-blaze the sapphire plain,
 The wan stars glimmering through its silver train;
 135 Gem the bright Zodiac, stud the glowing pole,
 Or give the Sun's phlogistic orb to roll.

[*Chase the shooting stars.* l. 115. The meteors called shooting stars, the lightning, the rainbow, and the clouds, are phenomena of the lower regions of the atmosphere. The twilight, the meteors call'd fire-balls, or flying dragons, and the northern lights, inhabit the higher regions of the atmosphere. See additional notes, No. I.]

[*Cling round the aerial bow.* l. 117. See additional notes, No. II]

[*Eve's silken couch.* l. 119. See additional notes, No. III.]

[*Where lighter gases.* l. 123. Mr. Cavendish has shewn that the gas called inflammable air, is at least ten times lighter than common air; Mr. Lavoisier contends, that it is one of the component parts of water, and is by him called hydrogene. It is supposed to afford their principal nourishment to vegetables and thence to animals, and is