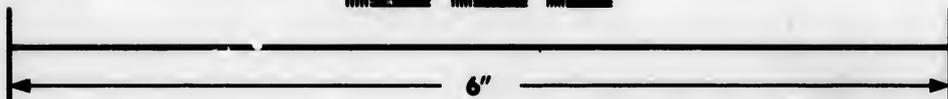
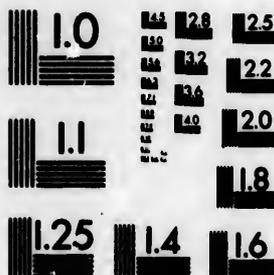


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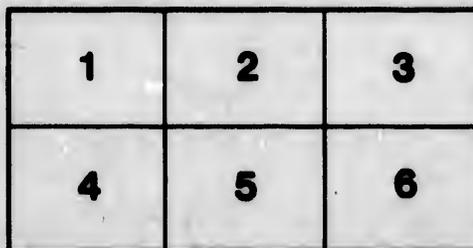
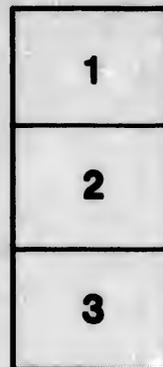
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8

U

JAMES M.

16 AVR 1962

DAY-DREAMS

BY A

UTTERFLY.

IN NINE PARTS.

I'll wing me through creation like a bee,
And taste the gleaming spheres.

—A. SMITH.

Shall he,
* * * * *
Who loved, who suffered countless ills,
Who battled for the true, the just,
Be blown about the desert dust,
Or sealed within the iron hills?

—A. TENNYSON.

KINGSTON, C. W.

JAMES M. CREIGHTON, BOOK AND JOB PRINTER, BROCK STREET.

1864.

819.1

#4273d

TR

PREFACE.

ERRATA.

- Page 22.—For "Swan Ganoids," read—Swam Ganoids.
26.—For "Needs," read—Need.
47.—For "Expends each white sail," read—expands, &c.
53.—For "azure-dowed," read—azure-domed.
84.—For "Germ enshined," read—germ enshrined.
112.—For "sun All-raging" read—sun All-ricing.
121.—For "jems," read—gems.
140.—For "tracts" read—tracks.
146.—Read "pulley and cord."

ADDENDA.

How much the author is indebted to Mr. George Combe he leaves to the intelligent reader of his influential writings to imagine.

Sir C. Lyell says, that, in Wales, "coprolites referred to fish" have been found "lower" than the *Wenlock* limestones of the Upper Silurian. How much lower he does not, I think, state.

the author—might convey a false impression or even appear contradictory: and though there are points on which the writer entertains strong opinions, yet he prefers that his efforts generally should be regarded as a series of questions put to Nature

819.1

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[A large rectangular area of the page is obscured by a heavy, light-colored shadow or redaction, rendering the text underneath illegible.]

PREFACE.

In the following pages the attention is confined exclusively to NATURE. Her volume is opened and *she* is interrogated respecting some of the leading phenomena of existence.

The inquiry may be conceived to have been conducted amid the *fluctuations* of opinion during the varied stages of mental growth from youth to manhood, and likewise to represent the *different* phases of thought of *more than one* individual or sect of thinkers; otherwise some passages—though not intended to represent the settled judgment of the author—might convey a false impression or even appear contradictory: and though there are points on which the writer entertains strong opinions, yet he prefers that his efforts generally should be regarded as a series of questions put to Nature

herself, and that a spirit of self-inquiry and independence should be exercised by all in the formation of their opinions, selecting for themselves what they believe to be most accordant with truth.

To some minds few subjects present more interest than Geology. The different formations are the different chapters of the book of Nature; the strata are the leaves, in which is written authentically the wonderful history of the past. On this subject, which forms a large portion of the "first part" of my little volume, I have been much indebted to one author in particular.

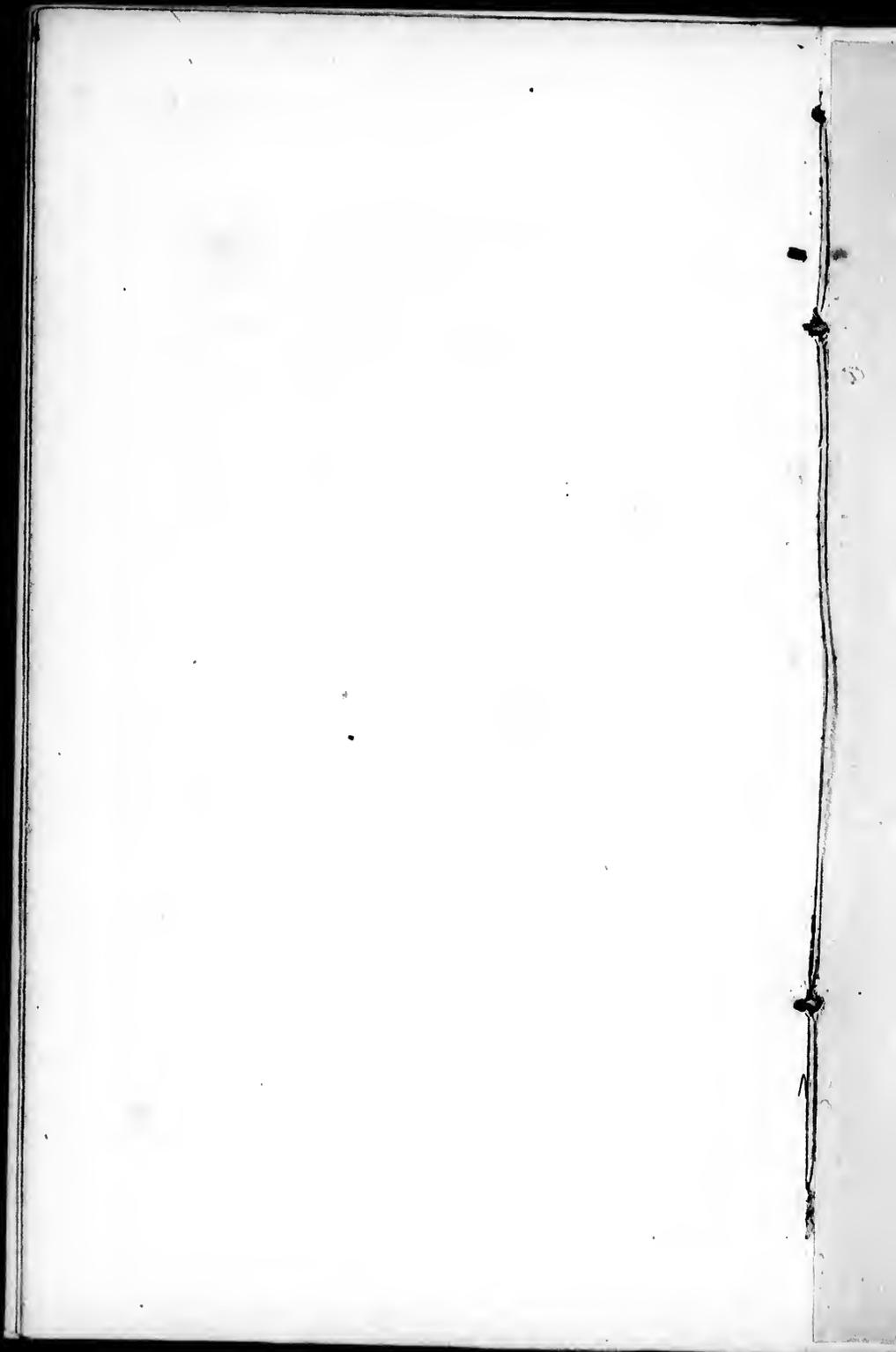
It may not be unprofitable to ask—What relation do I bear to the Universe? How came I here? Whither go I? Had my existence a motive? If so, what was it? This earth, what is it? These heavens, what are they? Myself, what am I? How constituted, how circumstanced, how actuated! By this it may be seen what response, if any, *reason interpreting nature* really does give to each.

Can we "by searching find out God?"

Commenced as a playful reply to a clever and amusing little piece written by a lady friend, on a subject wholly different, it became, as it proceeded, more serious. It was thus that the "butterfly" was introduced, flitting alike through the flowers of the field, the systems of the stars, or the empires of mind; and, wisely or foolishly, uttering what she chose. The first part was subsequently lopped off, but the "butterfly" retained.

To free, speculative minds, deeply imbued with a sense of the wonderful and beautiful in nature, it may afford some pleasure to look into the mysterious abyss of being, to speculate on the future, to hang dreamily over the past. Oh, it is wonderful, very wonderful indeed. In the light of nature, being is a mystery inexpressibly grand !

KINGSTON, JUNE, 1854.



DAY-DREAMS.

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* Idealism, as a system of philosophy, in its bearings on immortality and generally, poetised.

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(70—71.)
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DAY-DREAMS.



PART I.



"Let us (since life can little more supply,
Than just to look about us and to die)
Expatriate free o'er all this scene of man."

—POPE.

A Butterfly bright,
From grey morn till night,
 On pinions of Fancy I'll fly,
With wings, oh how soft,
I'll be borne aloft,
 Beneath the blue-canopied sky.

And in sunny dell,
I'll kiss the gay bell
 Of foxglove and cowslip of gold;
The honey I'll sip
From each fragrant lip,
 Whose beauty soft sunbeams unfold.

And when I would drink,
I'll light by the brink
 Of the crystal and sunlit spring;
Or the pearl I'll seek
On the moss-rose cheek,
 And rival its hues with my wing.

Gay creature of air,
Without fear or care,
 I'll roam through wide nature's domains;
The blue sky above,
My heart full of love,
 I'll list to the lark's glowing strains.

For song—gift of Heaven—
To us has been given
 To gladden the soul, to express
The holy demand
Of nature, God-planned,
 That blessed ourselves, we too bless.

And, in noontide heat,
I'll bathe my soft feet
 In the spray of the bubbling stream:
I'll spread my gay wings
O'er all beautiful things,
 And only of happiness dream.

And in grassy glade,
I'll seek the soft shade
 Of the myrtle and woodbine twined,
And where violets sweet
With the primrose meet,
 And mingle their odors combined.

And when evening grey
Shuts the' eye of the day,
 I'll hie to the jessamine bower,
And seek sweet repose
On the moss-clad rose,
 And enjoy the cool twilight hour.

Or the lamp of night,
With its dreamy light,
 I'll watch from my pillow of leaves,
And the firefly's play
By the pale moon's ray, [heaves.
 Till my breast with new transport

And when morning bright,
In mantle of light,
 Hath lifted night's curtain of cloud,
I'll hasten away
To sport in the spray
 Of the cataract roaring loud.

Or Silence and Night,
Their empire unite,
 And hold uncontested domain,
I'll count the bright stars,
Fair Venus and Mars,
 The Pleiads, Orion, the Wain.

And when every breath
In silence like death
 Is hushed, and the darkness still gains,
I'll think of the hands
Which marshalled their bands
 O'er Heaven's unlimited plains.

For the clear, deep blue
With its crystal dew,
 --Pearls dropt from the eyelids of night--
And silence which seems
Like eloquent dreams,
 To thoughts deep and solemn invite.

/ WHAT art thou, O Lord,
 By whose forming word
 The vast panorama arose,
 Whose pillars sustain
 The great starry frame,
 And whose arms all nature enclose. †

What art thou? Pure MIND?
 Thy footprints to find
 We seem, through life's varied domain,
 In heart, brain, and eye
 Of bird, fish, or fly,
 Or man, the last link of her chain.

But *these* are not THOU?
 Great God, when and how
 Shall thy creatures thee learn to know;
 Thy thoughts and thy mind,
 Not earth, ocean, wind,
 The garments* of Godhead below,

*Appendix A.

In this world terrene,
A mere speck, unseen
From a star in the milky way:
A hem of thy robe
Is this nether globe,
The abode of the sons of clay.

X In the starlit sky,
Thou art surely nigh,
'Mid the glittering hosts of Heaven:
In yon blue expanse,
Where bright Seraphs dance,
The privilege high must be given,

To behold thy face,
In that glorious place,
Where the Cherubim veil their eyes
From the dazzling light
Of the star-lamps bright,
Which light up their paths thro' the skies.

Or are stars the gems
Of the diadems
 Of bright brilliants, that Angels wear.
When, through systems above,
Thy behests of love
 From Empire to Empire they bear ?

Or are they the seams,
Through which glory gleams
 From the spirit-trod floor of Heaven?
Or some eyelets bright,
In thy robe of night,
 In mercy to mortals given ?

Or live we in thee
And move? Life's great sea,
 A wave of thy being, roll on?
Do the stars sweep through
The unbounded blue,
 The scintils of thought from its throne ?

In the flower and snow
Dost thou bud and glow?
 Dost throb in our innermost heart?
Alike in the tree
As the galaxy,
 Of thy being each atom a part?

Are the storm and flood
The palace of God,
 And rides He on the hurricane's wings,
In the thunder's roar,
In the earthquake's power,
 On all fearful and awful things?

Or in sunshine or calm
Dwells the great "I am,"
 In the breathings of infant love,
In the purling stream,
In the Poet's dream,
 On this earth, as in Heaven above?

Is his throne, then, here?

It is everywhere :

His palace is the boundless space :

He lives in the wind,

In the lofty mind,

Here, in Heaven, in every place. ✕

In the Earth's gyrations,

In the heart's pulsations,

In hopes which crimson on the cheek,

In the throbbing brain,

In the wind-lashed main,

In sunny vale and cloud-capped peak.

In the rainbow's hues,

In the pearly dews,

In the tears of the weeping sky,

In empires and states,

In senates' debates,

In all things—far, near, deep, low, high.

From Jupiter's rings
To those hidden springs,
 Which govern all matter, heart, mind;
From the star-thronged deep
To the things that creep
 Through stone-pores, his spirit we find.

Or is there a throne,
The great spirit's own,
 In a palace of pearly light,
Where, through fretted aisles,
A radiance soft smiles,
 And glory and beauty unite?

And dwells he alone
On that sapphire throne,
 In halls tenantless, noiseless, vast,
Where no echo wakes,
And no footfall breaks,
 A silence doomed ever to last?

B*

heek,

peak.

high.

Or do beings bright
As the stars at night,
 Of kingly tread and lofty mien,
Robed in woof of gold,
Their high converse hold,
 With minds profound and souls serene.

And beneath the throne
Of the Eternal one,
 Reason they of goodness and right;
And then pours along
The full thrilling song,
 Like a flood of all-glorious light?

And motives and laws,
The end, means, and cause
 Of matter, mind, duty or will,
Are the golden themes,
Which gild their day-dreams, [fill?
 And their souls with rich knowledge

And on rocks and cliffs,
In hieroglyphs,
 The dark sphynx-enigma engraves;
On the dust we tread,
On the giant dead,
 Submerged by old time's rushing waves.

She tells too of throes
Of nature; of foes
 To piscine and animal life:
The' Ichthyosaur's sight*
Her record of light;
 And its food, of death, pain, and strife.

Each tooth, foot-print, bone,
Now bedded in stone,
 Marks eras: the fragments of lime,
Red sandstone or shale,
In mountain or vale,
 Tell the story of ancient time.

*Appendix B.

Of monsters of old,
 That in slimebeds rolled,
 Or trailed their huge length on the bank
 Of silvery lake,
 Or slept in green brake
 Of giant fern, 'mid herbage rank.

How the' Ichthyosaur
 And Plesiosaur
 —Fearful creatures of giant make—
 The' Iguanodon
 Huge, and Mastodon [lake.
 Roamed lord-like o'er field, swamp and

How strange,* monstrous things,
 With leathery wings, [claws,
 Great eyes, serpent's teeth and long
 In the twilight grey,
 Seized their hapless prey, [ed jaws.
 And crouched them with reptile-shap-

*Appendix C.

We, things of to-day,
Were unknown, when they
 —Co-evals of mountains, lakes, seas,—
Were warmed 'neath a sky,
Where mozambiques fly,
 And fanned by a tropical breeze.

Oh ages bygone,
Since a glorious sun,
 With a flood of new heaven-born light,
Poured his golden rays
On those coral bays,
 Early homes of the Ammonite!

When, in burnished gold,
Swan Ganoids of old,
 And Sauroids of terrible name;
When the' Ammonite sailed,
And Trilobite failed,*
 Where was man, his work or his fame?

*Appendix D.

Ere through sea-depths, rife
With animal life,
 The Zoophyte piled up the lime,
And the coral isle
First began to smile,
 On the childhood of new-born Time :

For, is it not true,
That yon limestone blue, [tread,
 The chalk fields flint-veined, which we
On the mountains steep,
In the valleys deep,
 Are the skeletons of the dead.

When the fucoid first,
And Zoophyte, burst
 The pale death-prison of the deep :
When brute matter broke
Into life, and woke
 From a night of eternal sleep.

Or when creatures—new
To the then world—flew,
 The first time, o'er mountain, lake, field,
When Mammifers trod
On Earth's verdant sod, [yield.
 Whilst the' old to new forms of life

Did God interfere
In this nether sphere,
 And by direct fiat create,
From the' unconscious dust,
—Mere metallic rust—
 The life of the first radiate?

Or, in Nature's laws,
Find we ample cause
 For phenomena new and strange?
Did He all forsee
From eternity,
 And cause folding sequence arrange?

The butterfly bright,
So sylph-like and light,
Was a chrysalis last month's moon ;
Was a worm last spring,
Without horn or wing; [noon.
An egg, ere this, hatched by warm

The change seems as great
From each former state,
Though resulting from natural laws,
As any we know
In the depths below,
Which assumes intervening cause.

A cycle of earth
Suffices for birth
Of Butterfly, child of a day :
What changes appear
In an astral year,
Time's chronicle only can say.

The planets roll on
Round the' encircled sun,
 By centrifugal force impelled,
Nor wander through space,
In their ceaseless race,
 To their orbits by gravity held.

The law once impressed
On matter, the rest
 Thence follows by natural course:
Earth's changes to suit,
The life-parent root
 Expands with new germinal force.

The will of the' All-wise*
Is writ on the skies ;
 His language is Nature's fixed laws,
Which, through time and space,
Comprising each case,
 Needs no intercalary clause.

* Appendix E.

But *we* deem there's much,
In such cases, which
 No general law can explain.
Because they are few,
Strange, startling and new,
 To us they seem breaks in life's chain.

TIME's clock seconds notes,
The minutes too quotes,
 But how can it strike the long hours?
To like like succeeds,
But time new forms needs,
 To gender such life has she powers?

A wondrous machine*
Constructed has been,
 To calculate problems severe:
By units it counts,
To millions it mounts,
 Till each future movement seems clear:

* Appendix F.

When no more it creeps
By units, but leaps
 Over hundreds with nervous bound ;
Then returns with force
To its wonted course,
 But again deserts its old ground.

Such inconstancy
Oft repeated, we
 Suspect intervention or flaw :
Yet 'tis the result,
Albeit occult,
 Of higher conception and law.

It may be that He—
Who by gravity
 Props the star-studded dome of Heaven,
Pumps the crystal dew
Into hare-bells blue—
 To nature the license had given,

DAY-DREAMS.

2.

Not only to plod
On her path oft trod,
 But to traverse new kingdoms untold ;
Her Dodos to kill,
And their places fill
 - With creatures of different mould !

It may be that He
From eternity
 Stamped on matter the parent type,
Whence all life expands,
As progress demands
 The soft germ, rich blossom, fruit ripe.

At time's natal hour,
When earthquake's fierce power
 Tore piecemeal the newly-formed earth,
On land or in sea,
To fish, beast or tree,
 Nature had not as yet given birth.

C*

For the nurseling, Life,
'Mid the deadly strife
Of fierce, elemental ire,
Could find no safe Ark,
In which to embark,
On an ocean of liquid fire.

But when the cooled globe,
Wrapped in warm sea-robe,
Thin crystalline structure assumed,
Simple life-forms new
Through ocean beds grew,
And lily-shaped Encrinites bloomed.

But progress inspires
New wants, and requires
Complex beings of nobler grade;
Then fish, beast, bird, man
Appear on life's plan,*
In the councils of Deity laid.

* Appendix G.

What too, if the Earth

A natural birth

Had, in the dark womb of the past :

The moon from earth sprung :

The earth, from the sun ;

The sun, from a nebula vast,

Whose currents, set in

From opposites, spin

The mass into embryo stars,

Whose sun-bulks embrace

The whole orbit-space

[Mars.

Of some Jove, now of scatter-pathed

And thus, on the page

Of Time, hint the age

Successive,* at which they withdrew,

Henceforward alone,

In orbits their own,

To roam through the infinite blue.

* Appendix E.

As time's backward course
We trace, toward its source,
 We more or less dimly descry,
By lightstreaks, that flit
O'er mountains sunlit,
 The shores and the pole star on high.

When further we sail,
Our lights seem to fail,
 And we drift on a shoreless sea,
Where, through the domains
Of night, silence reigns,
 Through a boundless eternity.

PART II.

A being darkly wise. —POPE.

Down in the dim, deep
Eternity, sleep
Speechless ages, whose silence speaks
Thoughts pregnant of things
To the soul, and rings
Deep as thunder on Alpine peaks.

O man, hast thou heard
Oft, music or word
Softer, sweeter than that which fills

n high.

The soul, like the deep,
Rich echoes, that sweep
O'er eternity's voiceless hills?

Doth thy breast not glow,
With yearning to know
The state, shape, cause, motive of things:
Thy spirit to steep
In the awful deep,
And truth drink at being's pure springs?

As we firmly hold
To the dogma bold,
That matter, if such, has aye been:
So that it will be
To eternity,
By the' optics of reason is seen.

This matter disposed
Thus, God-head proposed
 To mould into organized form,
With life, feeling, mind,
Heart, passions, combined
 With conscience, hopes, sentiments warm.

By primitive law,
These adversely draw,
 Maintaining a state of unrest:
Some principles tend
To self, their sole end,
 Our quantum of good the sole test.

Some our children guard ;
Their simple reward,
 The good they to others create :
'Tis seen by the sigh,
By love's kindling eye,
 The strength of the passion how great ?

Some noble employ,
Seek, free from alloy,
 In benevolent deeds of love ;
Where fiercest seas roll
With blind uncontrol,
 Pleads loudest the soul's gentle dove.

And reverence dwells,
In man, and compels
 Respect for the good and the true :
Its purpose designed
To hallow the mind,
 And soul with true worship imbue.

For greatness and good
Are streamlets from God,
 Living fountain from whom they flow :
Their substance enshrined
In Deity's mind,
 Man's goodness his shadow below.

And Hope paints the high,
 Clear, blue, bending sky,
 In dreamlight of beauty her own ;
 Enrobes Earth's wide scene
 In mantle of green,
 Rayed with light from her golden sun.

All life's a bright dream :
 As, in sunbeams seen,
 All objects dance, glow to the sight ;
 So, as the rays pass
 Through phantasy's glass,
 Dust turns into gold in her sight.

The bleak mountain tops,
 To her eye, are props
 High as Heaven, to buttress the clouds ;
 The cold snow, the hoar,
 Which time silvers o'er
 Their brows, whom ripe glory enshrouds.

The lightnings which tear
Earth's bosom, nor spare
 The great, or the wise, or the good ;
At which brave hearts quail,
Are, on a slight scale,
 The beautiful fireworks of God.

For her Mount Blanc rears
Her head to the stars,
 And smiles at the lightnings below,
Which round her breast play,
And due homage pay
 To the Queen of eternal snow,

Who looks down, with pride
Of soul, on the wide
 Dominions, that outspreading lie
Around her proud throne,
Whom all freely own
 The cold Queen of sublimity.

Thus Fancy hath scope
For conjecture ; Hope
 A whole Heaven to people with bright,
Fair children of bliss,
Whose happy lot 'tis,
 To love, trace God's works, live in light.

Such sights Poesy,
By Hope spurn'd, doth see,
 In this ev'ry day world of time ;
The curtain, which hides
Her beauties, divides,
 And shews through the rent the sublime.

But intellect scans
Life's problem ; demands
 For ev'ry effect solid cause :
Cold, clear through her glass
As the light rays pass,
 She peers into nature's fixed laws.

Each phenomenon,
 On earth, in the sun, [time,
 Through the realms of nature, space,
 She weighs in her scale
 —All, each in detail—
 Wherever is rayed the divine,

Through earth, ocean, wind,
 Star's orbits, man's mind, [eye,
 In grassblades, round dew-drops, the
 In the' enigmas dark
 Which time's annals mark,
 Within her wide province all lie.

But o'er all domains
 Of mind conscience* reigns,
 With authority, if not might,
 The true, stedfast, strong,
 Stern foe of all wrong,
 And friend, though not umpire, of right.

*Appendix I.

For intellect weighs
Each problem, and lays
Its decision before the mind:
The conscience then feels
Its duty, and seals
With approval the course defined.

Of public rights she,
God's faithful trustee,
In the bosom of one man lives,
Another man's right
To guard with the might,
Which simple integrity gives.

Great engine and blest
Of good, where the test
Of truth has been rightly applied:
Dread engine of ill,
Where, nerved by strong will,
False notions e'en good men misguide.

She may e'en pursue
With vengeance the few,
 Who her dogmas refuse to obey ;
But, when understood,
She clings to the good,
 Life's brightest and gloomiest day.

For conscience is blind,
And hence cannot find,
 Through mazes of error, her way,
Till intellect's light
Dispels the deep night,
 Converting the darkness to day.

No organ of mind
To vice is inclined,
 By its simple and native bent ;
'Tis fixed in the brain
To urge or restrain,
 For ends private or social meant.

'Tis the work of God,
Great author of good,
 Who garnished the star-spangled sky,
Gave earth, sea and air
Their occupants fair,
 And to the light fashioned the eye

Of each, by its lens
Peculiar, which sends
 The light-ray to bear to the mind,
The knowledge of what
Takes place in each spot
 Of space, within limits assigned.

The being great, wise,
Who piled up the skies,
 And pillared on air the dark clouds ;
Who fashioned the eye
Of mammoth and fly,
 And nature with miracle crowds,

Is he who hath made
Each ganglion, thread,
 And tissue, and nerve of the brain.
If not he, then who
Into matter threw
 Subtile thought? Did he access gain

To the central throne
Of God, there alone
 The leaves of his volume to turn,
And the hidden tie,
Which mysteriously
 Binds spirit and matter, to learn?

And who formed at first
This nerve? Or who durst
 Ingraft so this counterfeit base
On the god-born brain,
That effort is vain
 Its roots, stem, or branches to trace,

With the original
So identical,
 In all that to matter pertains,
That, through the whole course
Of time, its first force,
 Its like to produce, still remains.

But the unity
Of plan, which we see
 Pervading the brain, as its soul,
Is itself alone
The best proof, that one
 Is maker and lord of the whole.

~~T~~'Tis true that men may
Right, good, truth betray,
 All trusts moral, social, divine ;
For the selfish heart,
Of man's nature part,
 Will with reptile vigour entwine

Its prey, and it hold
In its serpent fold,
 And then the cold intellect send,
With sophistry strong,
In battle for wrong,
 'Fore conscience its course to defend.

Or self may absorb
All passions—that orb
 Of darkness round which circuit all—
Love, hope, feeling, fear,
In their orbit drear,
 Isolate, deaf to duty's call.

Then, as habits grow
By exercise, so
 Impressions repeated lose power:
Thus habits of ill
Gain force; the bad will,
 More hold, deeper roots ev'ry hour.

And truth's cutting blade,
That once deep wounds made,
 On minds newly startled by crime,
Cuts less and less deep,
As men tread the steep,
 And slippery sin-ways of time.

But 'mid stars that peep
Through yon azure deep :
 Mid vast systems of worlds, that throng
The blue fields of air,
Is no star world there,
 Where right ever triumphs o'er wrong?

In man's soul inwrought
Are whole realms of thought,
 In the progress of things unrolled ;
Time's favouring gale
Expend each white sail,
 And new worlds new wonders unfold.

And as knowledge grows
In the soul, and flows, [streams ;
Through wide nations, in broad, deep
Fierce monsters, which lie
In dark caverns, fly,
Nor henceforward disturb our dreams.

For, like dew-drops caught
By a hoar-frost, thought
Brilliant, plausible strikes the mind ;
But when the bright sun
Hath his race begun,
No trace of its beauty we find :

But the melting power
Of Sol's fiercest hour
Cannot wear the firm rock of truth,
High as heaven, broad-based,
It defies the waste
Of old Time's all-devouring tooth.

PART III.

The wish, that of the living whole
 No life may fail beyond the grave,—
 Derives it not from what we have
 The likest God, within the soul?

Are God and nature then at strife,
 That nature lends such evil dreams?

—IN MEMORIAM.

All laws seem to tend
 To good as their end:
 All contrivance—the eye, solar sphere,
 Brain, bone, muscle, joint
 And nerve—seems to point
 To this—all to gravitate here.

E

How perfect the skill

To enable the will

To reach our frame's sentient extreme:

How wondrous the art,

Which moulds so the heart,

That, unaided by will, the rich stream,

With its pulse beat strong,

Pours ever along,

Repairing, each moment, the waste

The system sustains:

The delicate veins,

'Mid network of nerves, interlaced,

Returning the flood

Of the damaged blood

To tissues so subtilely thin,

That the inhaled air

The waste may repair,

And the blood its oft circuit begin.

How wondrous the eye!
Its sphericity,
 Coats, lens, crystal humours contrived
To paint on the nerve,
Outspread to receive,
 Like a mirror, the impress derived

From outward things, which
The eye doth not touch, [convey,
 Yet which, through bent lightbeams,
Along the live nerve,
Impressions that serve
 The image of things to portray,

To the indwelling mind,
In nerve-folds confined,
 Yet scanning the infinite sky,
Whose bright star-lamps strew
The unbounded blue,
 As seen through her telescope eye.

But though in detail
So wondrous, all fail
 In grand FINAL ISSUE—the soul:
And yet, 'tis poor art
Which perfects the part,
 But fails to accomplish a whole.

Do things hither tend?
And is THIS the END,
 Involved in such outlay of means?
Did Godhead propose
*No worthier close**
 To life's drama, than reason here gleans,

Some sheaves or rich ears,
Bright days, perhaps years,
 To one, more; to another, less;
But, through her wide fields,
To no man life yields
 A full crop of clear happiness.

* Appendix J.

Who questions this truth?
Yet can the fair earth,
 In springtide of beauty and song,
In mantle of green
And sunlight, serene, [long
 Rich, azure-dowed, balm-breath'd, be-

To failure of end,
Where beauties so blend,
 As if this sole earth were the care
Undivided of God,
Not the Universe broad,
 With its fretwork of systems up there?

Yet how brief the bliss,
Which flows from e'en this! [care,
 How frail, when gaunt want or grim
Doubts, fears, or disease
On their victims seize,
 Or grief, to the depths of despair!

But is there no spot,
In the infinite,
 Where hope never dies in the breast :
No green, gladsome isle,
Where life's pilgrims smile,
 And charm their time-sorrows to rest?

Where, like a sweet dream,
In soft, silvery stream, [flow ;
 Thoughts mellowed with peace gently
Now gorgeous attired
Thoughts, words half-inspired,
 With emotion, rapt, kindling glow.

PART IV.

And because right is right, to follow right.

—GENOVA.

So runs my dream ; but what am I ?

An infant crying in the night,

An infant crying for the light,

And with no language but a cry.

—IN MEMORIAM.

Were a future state

So certain, that hate

Itself could not question its truth ;

And man's future lot,

The reflex of what

His sub-lunar life imaged forth :

Then might virtue be

Mere good policy,

A paction with Heaven for pay :

Wise abstinence here,

For enjoyment there [weigh

—Due product, where fear and hope

This brief earthly span

Of the life of man,

Compared with the boundless career,

Disclosed to his eye

In eternity,

With its future perennially clear :

A tempered self-love,

Not greatness above

The level or thought of reward

—The homage of worth :

At the altar of truth,

A holy, sublime disregard

Of self, such as fires
The soul which aspires
 To virtue, because it descries,
With childlike delight,
The beauty of right,*
 And loves goodness in every guise.

The love mothers feel
For their children's weal,
 So nobly oblivious of self,
Asserting its power
—An Eden-plucked flower—
 In the breast of a Hagar or Guelph.

To seek truth, as truth,
And genuine worth,
 For itself, not because hope descries
The meed, is, if God
Be the' essence of good,
 The path on whose course worship lies.

* Appendix K.

Love, like verdant spring,
Bright, beautiful thing,
 Steps forth from the winter of self;
Yet, like the fair dawn
On the poor man's lawn,
 Is too rich to be purchased by pelf.

Pure love, like the root,
Exists for the fruit,
 Content to lie hid from our view,
Beneath the cold sod:
The image of God, [through,
 Who, pervading all things through and
Works ever the same,
Unheeding of blame
 Or praise—like the stillness of night—
In the untrodden waste,
And provinces vast
 And peopled, concealed from all sight.

X
Pure love is the flower,
That laughs when clouds lower,
 Expecting the soft vernal rains
To ripen the seed,
But takes little heed
 Of the ills her own beauty sustains:

Or like the fair star,
That shineth from far,
 When all things are buried in night ;
But when the bright day,
With worthier ray,
 Robes nature in vesture of light,

So gently retires,
Till darkness requires
 Her aid, when she noiselessly steals
Once more to her post
Of duty, and lost
 To all selfish interest, feels

The pure joy of love ;
But soon as, above
 The sky verge, orb'd Luna is seen,
She leaves night so fair,
As best, to her care,
 And retires to the blue depths serene.

But oh, can it be,
That the majesty
 Of Heaven exults in the praise
Of his creatures here,
Or covets their prayer,
 For itself ;* as man loves displays,

Which flatter his pride ?
Is Godhead allied
 To the weakness of him he hath made,
Or moved to do what
He would otherwise not,
 By man's importunity swayed ?

* Appendix L.

The thing we demand
 Is writ on the sand
 Or snow-drift, unless it forestall
 The action of God,
 On principles broad,
 Embracing the welfare of all.

If free from regard
 To self, the reward,
 Which Godhead proposed, was the good,
 Through virtue, of man,
 —If mapped on life's plan—
 Then may we with reason conclude,

That, if at our hands
 The God-head demands
 Praise, prayer, or aught else, 'tis because
 Such claim understood
 Subserves human good,
 • That key to all God-given laws.

+ All worship is good,
Which ministers food
 To the system, ennobles the soul;
To purpose adds force
And depth; on the course
 Of the passions exerts its control;

Lends patience, repose,
And earnestness; glows
 In the speech, on the lip, in the eye;
Lifts man above earth;
To time gives new worth,
 Mantling life with divinity.

True worship effects
Man's weal, and reflects
 Itself on the glass of the soul,
And photographs there
All images fair,
 Without the mind's conscious control.

The outflowing love,
Whose voice soars above
 Self-interest, seeking the good
Of others, reacts
On self, and extracts
 The sweets, which blind self-love elude.

So mists, which arise
And drape the blue skies
 In garment of manifold grace,
Flow hither again,
In soft, genial rain,
 To wreath into smiles nature's face.

But worship* is not
The words; 'tis the thought,
 The reverence mute of the soul,
The' Eolian's rich note,
By nature's hand smote,
 Or ocean's long, deep, silent roll.

* Appendix M.

Or worship may be

A life-loyalty

To a principle, loved as a truth,

And hugged to the heart,

—An integral part

Of self—with the fervour of youth. X

PART V.

A cry between the silences.

—WHITTIER.

Who forged that other influence,
That heart of inward evidence,
By which he doubts against the sense?

—THE TWO VOICES.

Oh! mysterious mind,
What art thou? Confined
In this prison house of dull clay,
Thou liftest thine eye,
With hope and a sigh
To high heaven, for one assured ray
F*

Of God-given light,
 To illumine the deep night, [tread,
 When cold, feline doubt, with soft
 And stealthy advance,
 Displays her barbed lance, [dread!
 New-startling the soul with vague

X Oh terrific power
 Of fell doubt's dark hour, [thought,
 When forced, like a wedge, by strong
 She sunders all ties,
 As if reveries
 Of childlife, on brain tissue wrought;

And forces our bark
 Adrift, on the dark,
 Stormy, foam-crested depths to roll,
 With few gleams of light,
 Athwart the deep night,
 Faintly indexing some dim goal,

If goal that may be,
 Which no eye can see,
 By visual power to man given ;
 Where all efforts fail
 To pierce the deep veil [ven.
 Of darkness, which curtains whole Hea-

Great God, what's the end
 Of all? Whither tend
 This being and system of things?
 Is life a mere breath
 —No more—and doth death,
 With withering touch, sere the wings

Of hope? And the grave
 His dark banner wave
 O'er life, and are all things forgot—
 Hopes, purposes, fears,
 Joy, laughter, and tears,
 Past all, as if things that were not?

In the abyss of time,
Engulphed the sublime
 And soaring ambitions of earth,
And life's prudent schemes ;
And Hope's golden dreams ;
 Thoughts base, or of generous worth ?

And doth the cold grave
Close over the knave,
 The good, and the wise, and the great
Alike ; and time's flood,
By fiat of God,
 Whelm all, by one horrible fate,

In the dreary sea
Of nonentity,
 In the silence of dreamless night,
Where the dullard ear
Of death doth not hear,
 And each clay-cold orb, reft of sight,

Is a mere earth's dust,
In the wreck and rust
 Of all earthly and astral things ;
And, they sparkle not
With life's glowing thought ;
 For Hope never touches the strings

Of the human lyre ;
And the lambent fire
 Of fancy enkindles no flame ;
But rank weeds, and cold,
Earthy-smelling mould
 The fierce triumph of death proclaim.

And the worms, that crawl
Through that vacant hall, [supreme,
 Where thought once enthroned sat
Their evidence bear,
That the dust down there
 Is disturbed by no Memory's dream :

And the mould that falls
From the crumbling walls
 Of this masonry—work of God—
Seems mere vulgar earth
Void of judgment, worth,
 Or spirit—a plain common clod.

But oh, can it be,
That eternally
 The great human spirit, oppressed
By the passive might
Of cold, starless night,
 Shall in the dark sepulchre rest ;

And no more look on
The great glorious sun, [grew,
 Or this earth, where fond memories
Or the stars at night,
So serene and bright,
 In their depths of perennial blue?

And yet, if time must
This vitalized dust,
 By affinity's laws, dissolve :
Must death too control
The great moving soul,
 And mind—the great problem—resolve,

As tho' a result,
By process occult,
 Of matter, the all-parent root,
From which subtle thought,
Hopes, memories fraught
 With sorrows or joys, upward shoot.

The thing that we are
We know not : the far,
 The wondrous, the high, the profound
We reach ; but the mind,
The essence enshrined
 Within us, what plummet can sound !

All physical things,
Their wheels, movements, springs,
 We grasp—all mechanical skill ;
The laws, whose combined
Force regulates mind ;
 The motives, which underlie will,

And shape the career
Of Peasant and Peer,
 For good or for ill, as the soul—
Strong, weak, coarse, refined
By birth—is inclined,
 And bent by time's iron control.

On the boundless sea
Of eternity,
 The frail bark of our life appears,
But WHERE are we: WHAT
Our heaven doomed lot, [fears.
 The END of those griefs, joys, hopes,

Do they all end here ?
 To this nether sphere
 Are we chained—to this Titan's rock?
 Is this wondrous life,
 With thoughts earnest rife, [mock?
 A thing doomed but high hopes to

Is there no lone star
 In the distant far,
 'Mid yon boundless blue, to man given,
 By whose clear, fixed ray,
 To steer his dark way,
 And pilot his vessel toward heaven ?

In the God-formed plan
 Doth no rainbow span
 The broad ocean, which separates time
 From eternity :
 Is all shoreless sea,
 Ceaseless, fathomless, pathless, sublime ?

PART VI.

In Being's floods, in Action's storm,
I walk and work in endless motion,
Birth and death an infinite ocean,
A constant weaving
With change still rife,
A restless heaving
A glowing life.
Thus time's whizzing loom unceasing I ply,
And weave the life-garment of Diety.

—GOETHE.

That mind is, we know :
In this faith we grow,
 As the opening thoughts expand :
The child, youth and man
Of deep science can
 All on this solid platform stand.

But is it so plain
Of proof, that the brain,
 In whose magical folds confined
Thought lives, as in wire
Electric winged fire,
 Exists independent of mind.

Yet shall we conclude
That matter, which—viewed
 By reason—seems muffled in night,
Eternal shall be,
Whilst mind—the true we—
 In the dimness of matter more bright,

Is destined no more
On Hope's wings to soar
 —Once passed the time-empire of sight—
A star, that erst shone
Its brief hour, hence gone,
 Snuffed out into uttermost night.

And as the sweet scent,
In a rosebud pent,
 Exhales and is lost on the blast.
So, when this poor guise
Is withered, thought dies,
 A wreck on the shores of the past.

But what, if the mind,
By law sense-confined,
 In time, 'neath this stratum of stars,
Secretes by her spell
This fair, wondrous shell
 Self substed, till, bursting the bars

Of Chrysalis time,
Free, joyous, sublime,]light,
 She mounts the blue space, winged with
Where, deep in the soul,
Is mirrored the whole,
 As in a calm lake the pure night,

With each starry gem
Of her diadem,
 Shining up through the blue serene ;
Whilst the moon so fair,
In the depths down there,
 Rides through her domains like a queen.

And what, if the whole
Are things of the soul, [nished skies,
 This frame, earth, bright moon, gar-
If, from the great sun
Of Spirit, are spun
 All systems, which gravity ties

To their focal source,
By a hidden force
 Mysterious, dynamic, unknown—
A power that controls
Each orb as it rolls,
 And links to the great central throne
 G*

All seen and unseen ;
What is, what has been ;
 The voids which all being embrace :
The cold stars on high ;
The deep earth-born sigh ; [space.
 The pulses, which throb through all

Each magnetic thread
Of the nerve-web, spread
 Throughout the wide system of things ;
Life, force rushing on
Through each ganglion,
 Star-centres of vast astral rings ;

Whence filaments, spun
Reticulate, run,
 Embracing all systems of space—
Now, the dew-drop soft ;
Now, the star aloft ;
 Each special, each general case.

The grass blade scarce seen
In its sheath of green, [fanned,
The rose-leaf, by morning's breath
Are spun in one woof
With the starlit roof
Of Heaven. Each atom of sand,

Its shape, place, and course
Are ruled by a force
All potent, as that which controls
The wild storm-lashed sea,
In its agony,
Or earth on her planet path rolls.

When the dew-drops shine,
On each sunlit line
Of gossamer network, on sod
Of emerald green,
In the morning's sheen,
'Tis a miniature skywork of God.

On each dew-starred thread,
Self substed, self spread,
 Arachne the slightest touch feels;
On Heaven built lines,
To suit her designs,
 The shock travels on lightning wheels.

Thus, back to the Brain
Of Being, may pain,
 Pleasure, evil and good, be conveyed;
And, writ in the broad
Time's annals of God,
 'Mongst the archives of Heaven be laid.

With his countless waves,
Time's great ocean laves
 The vast shores of remotest space,
And with careless hand,
On the shifting sand,
 Graves the history of each race.

Arachne how oft,
In the twilight soft,
 Seems poised in mid air, yet some tie-
Holds spider, moon, mote,
All known, near, remote,
 From mind to yon azure-domed sky.

The vast, pulsing heart
Felt through ev'ry part,
 Welling life from the beating brain,
Forces throbbing seas
Through all arteries
 Of the great universal frame.

The atoms that float
On light rays, remote
 On the outskirts of being, afar
In those depths of blue,
Feel each pulse beat true,
 As night's nearest and mightiest star

PART VII.

—

Cause and effect, means and ends, seed and fruit, cannot be severed; for the effect already blooms in the cause, the end pre-exists in the means, the fruit in the seed.

—EMERSON.

In the heavens, on earth,
Effects owe their birth
 To causes, whose sovereign sway,
The comet, that flies
Athwart the blue skies,
 And mind's faintest fancies obey.

Each future result
To some germ occult,
 In the lap of great nature sown,
Its parentage owes ;
And when the soul glows
 With hopes warm, or inly we groan ;

Each throb has its cause
In those primary laws,
 Which govern all matter, heart, mind :
The life, motives, will,
All good as all ill,
 In that embryo germ enshined.

The soft blushing rose
From a seed-germ grows ;
 Its sweet perfume, fair form, rich hues,
Are things in due course,
Where, by inborn force,
 The present the past but renews.

But though we may change
 Its colors, arrange
 Its leaflets, to suit some new taste :
 Yet no special clause,
 But broad changeless laws,
 Have each hue as each form embraced.

Effects spring from cause :
 Defects have their laws :
 No *lusus naturæ* is known :
 From adequate force
 All follows, of course,
 The fall of a leaf or a throne.

X All true seers, who look
 Into nature's book,
 And study the archives of God,
 In her pages see
 Only harmony ;
 For never, through orbit untrod,

Shoots comet or star,
In defiant war

With law, the expression of cause :
In the statute book
Of whole Heaven, you look,
In vain, for exceptional clause.

In the empire of mind
And matter—defined

As within or without the soul—
Through time's rolling years,
No outlaw appears,
Which owns not her iron control.

Birth, death; health, decay
Succeed, as the day

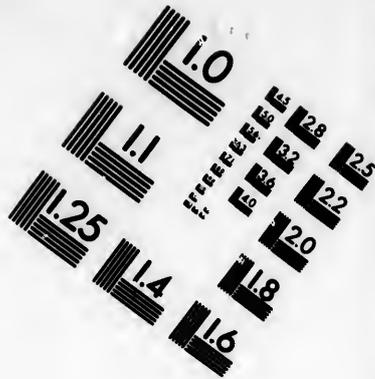
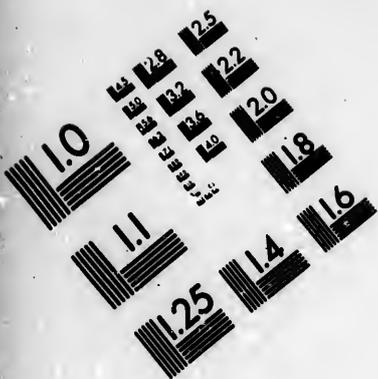
Is followed by sable-winged night :
The heart-pulse, that last
Throbbled strong, in the past
Had its cause and time fixed, and might.

The atoms that dance
 In sunbeams ; the glance
 Of rapture that beams in the eye ;
 The thought that light strews
 O'er life, and indues
 Common things with sublim

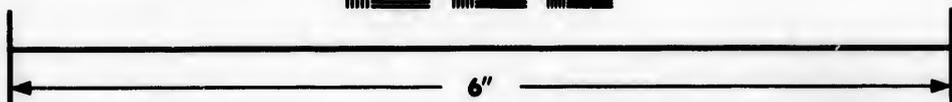
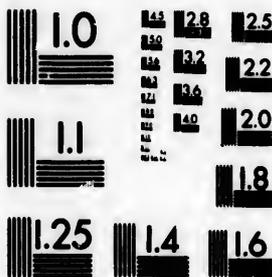
Are fixed, as that night
 Shall yield to the light,
 When morning in glorious array,
 And, wafted on wings
 Of light, pœans sings
 To the advent of new-born day.

The javelin's flight
 Depends on the might
 Of the hurling force ; so the range
 Of thought, the soul's view
 Of being, is due
 To impact on mind ; and all change





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In the astral sphere,
In the soul's career,
 In the hue of a thought of the mind,
Is cause-bound, not free,
A necessity
 On the map of all being defined.

As plants from seeds grow,
So like results flow
 From like causes, perennially sure,
Men's acts are the fruit
Of mind the fixed root,
 By circumstance fed—pure, impure,

Or mixed; as the blind
Desires,—unconfined [ed,
 To the end of their being—are school-
'Neath proper control,
To act for the whole,
 Of which they are parts; or misruled

By notions of right,
Bred in the soul's night,
When duties are less understood;
Or when we let free
One propensity,
To act for its own private good,

Devoid of regard
To nature's award,
The issue of good to the soul,
If mind, to self true
And all, keeps in view
The harmony of the great whole.

In every effect
Full cause we detect,
Or ought to, not greater nor less:
By connatal laws,
Surplusage of cause
Must gender result in excess.

H*

E'en the prayer we breathe,
—Like a scented wreath
 Of violets plucked in the dew—
Exhales from the mind—
—Wish, will, word—defined,
 As clear as their petals deep blue.

All being is cause
And consequence;* laws
 Are but the expression of force,
Propelling the sphere
Of light, the warm tear,
 The joy-throb and pang of remorse.

Man acts not without
A motive; throughout
 Wide being, the strongest bears rule;
But motives bud forth,
The mind's normal growth,
 Developed in life's shaping school.

* Appendix O.

In causation's chain,
Some links may remain
 Unseen, thro' the mind's murky haze ;
Yet, subtile as air,
The links are all there,
 Tho' concealed from our steadiest gaze.

PART VIII.

Are they not souls rendered visible; in bodies that took shape and will lose it, melting into air. Their solid pavement is a picture of the sense; they walk on the bosom of nothing, blank time is behind and before them.

—CARLYLE.

Is life, then, a dream,
And do things but seem,
 In this world, in yon star-strewn sky :
Is the universe, fraught
With wonders, inwrought
 In the network of the mind's eye.

And is mind the glass,
On which, by a pass
 Of the great mesmerizer's hand,
Is mirrored each scene,
Blue skies and fields green,
 The wonders of air, sea, and land.

Then, are we not men,
But spirits, whose ken,
 Thro' Fancy's kaleidoscope, views
This pageant of time,
Which, sad, gay, sublime,
 With blossoms of beauty life strews.

In dreams, we behold
Like wonders unrolled ;
 A whole fairy land, peopled with bright
Creations of thought,
By phantasy wrought,
 On mind's canvass, with pencil of light.

We ask, can it be
A dream, when we see,*
 And handle, compare sense with sense;
Their evidence weigh,
In this twilight grey
 Of mind, with emotion intense.

We see friends and foes:
The time-battle glows
 With earnestness, and the full tide
Of manifold life
Pours onward; and rife [stride,
 With thoughts glowing, and bold giant

Hope, as in life's plan,
Springs on to the van,
 Whilst Effort moves slow in the rear,
And Mind coldly weighs,
And Piety prays,
 And Sympathy sheds the warm tear.

* Appen. lxx P.

All so life-like seems,
And true, that those dreams
 Of broad, stirring day scarce excel,
In painting or power,
The still midnight hour,
 When fancy o'er mind weaves her spell.

We sorrow, joy, hope;
Through mind's darkness, grope
 Our way into nebulous light,
Or no light, or day,
As thought's struggling ray
 Opens up the dim realms of night.

We think, will, and act,
And reason from fact, [store :
 Drawn from memory's long treasured
Nay, Time's curtain rend,
By mind's force, and wend
 Our way to eternity's shore.

'Tis true, life's a dream
More calm, that the beam
 Soul-kindled more vividly burns,
With steadier light,
Dissolving dim night,
 Which mind, by her alchemy, turns

To broad, stirring day,
With clear, golden ray
 Of sunlight, green fields, azure sky,
Woods, streams, mountains, seas,
Sweet flowers, balmy breeze, [fly.
 With creatures that crawl, swim, walk,

There are who,* of mould
Abnormal, behold
 Strange visions with mind's open eye;
Who, spurning the bars
Of sense, to the stars,
 Through soul-gendered firmaments, fly.

* Appendix Q.

And, with ravished ear,
In planet lands hear
Spirits' converse on Heaven's design,
Expounding each clause
Of those wondrous laws
Of the great primal source Divine.

There are too, who see,*
In vacuity,
Clear visions with calm, steady gaze :
Thought painting on space
Void, sunlit, each face,
As seen in reality's blaze.

In the clear, full light,
Stands the image bright
Of each object, in bold relief :
To their sense-warped view,
All so lifelike, true,
As to gender in many belief,

*Appendix R. I

That the phantom, thought,
On fine nerve-woof wrought,
Or by fancy from elf-land lured,
Is no spectral lie,
But true entity,
By sight to reality moored.

What paints the blue sky?
The light, mind, or eye?*

What silvers the moth's satin wings?
Or, over yon wold,
A mantle of gold
And green, in rich harmony, flings.

One holding a cup,
Is ordered to sup
Plain water, to milk changed at will.
He looks: to the sight
Most plainly 'tis white.
He drinks and 'tis clearly milk still.

* Appendix S.

'Nay, but it is wine:

Its particles shine,

'Tis genuine blood of the grape:

But taste it:' 'Ah, yes;

'Tis wine, I confess.'

Nor can he conviction escape.

Thus matter we find

Transmuted by mind;

The muscles too seemingly dead,

Or sinewed with might:

Hence iron is light,

A feather more weighty than* lead.

And though we behold,

Thro' portals of gold,

Great Phœbus ascend, onward roll,

And, through the expanse

Of blue Heaven, advance,

With full orb, to his western goal:

*Appendix T.

Yet science denies
Its truth, and describes
 A fixed sun and revolving earth :
Yet not fixed—thro' space
He pursues his race,
 'Mid bright stars of coeval (?) birth ;

Brother orbs that lie,
One vast family,
 From this sun to the utmost bound
Of our firmament—
Glorious star-lit tent,
 Azure-domed in the vast profound.

Swift careering on,
Round some central sun,*
 In their ceaseless, unerring race :
Glorious galaxy,
On a crystal sea,
 Islet stars, in void, silent space.

* Appendix U.

Yet, when viewed afar,
From some outskirt star,
 This firmament star-spangled bright,
Seems there but a speck,
Or dull milky streak,
 Sunk in depths of dim-curtained night:

While to us their skies,
Where suns countless rise,
 In the deep empyreal blue,
Seem mere tiny dots,
Mapped on star charts—blots
 Of faint light, to our flesh-dimmed view.

In a mirror true,
All objects we view,
 Reflected, seem real; endued
With mind, motion, will,
Or breathless and still,
 Round, angular, pale, rosy-hued,
 I*

As in life. The eye
Enkindles ; the sky
 Is bright : on its bosom clouds float—
White isles on a sea
Of azure—each tree
 Is robed in its own leafy coat.

There too imaged lie
The earth and the sky,
 Created by sense, swift as thought,
From nothing, on space,
Into form and grace ;
 On the image-glass of the soul wrought.

In the realms of art
And nature, each part
 Shews perfect—each answers to each—
The vase, statue, bell .
Or rich, pearly shell,
 Fair lily and fleshy-cheeked peach.

The soul's wild distress
 The features express,
 And manifold thoughts, hopes, and joys :
 Yet all are writ there,
 Hope, anger, despair,
 With a pen which truth only employs.

And the thoughts that speak
 Thro' the blushing cheek,
 And hopes which soft glances inspire,
 And the lightning flash
 'Neath the eye's dark lash, [ire.
 And black clouded brow charged with

And the lids that tell
 The soul's tale so well,
 Or which scorn to shed the soft tear,
 And each lock of hair,
 On the forehead fair,
 With its shadow, stand visibly clear.

Yet 'tis a dream's dream,
The whole : things but seem
 To be, move, or act : for on air,
By soft sunbeams writ,
The thin phantoms flit—
 The figments of thought not more rare.

Thus mind builds a globe,
Throws o'er it a robe
 Of grey twilight or rosy day,
With blue bending skies,
Now, starred with bright eyes,
 Peering down with pure sparkling ray.

Now flooding with light
The wide realms of night, [eyes.
 The bright, twinkling stars shut their
And, dazzled away
From contest with day,
 For the empire of beauty, night flies.

And rosy-cheeked morn,
Of light and love born,
 She teaches to kiss the gay flowers ;
And the sparkling dew,
Bright stars which earth strew,
 To sip, in the soft vernal hours.

At her nod, morn bends
Her fair form : descends [air,
 With haste, from her cloud throne of
And pours golden light
From the mountain's height,
 On earth's forests and tower tops fair.

Then visits each vale,
Where soft warblers hail
 Her approach, with sweet matin song :
The lark shakes his wings,
Mounts high heaven and sings,
 With voice at once tuneful and strong.

The daisy—day's eye—
So pretty and shy,
 Plue pimpernel, marigold bright,
Whose lids closed, when day
Paled her sparkling ray,
 Now ope them again to the light.

From those golden beams,
Which, like hope's young dreams, [drew
 Oft tremble round cloud-skirts, she
Her colours, to tip
The daffodil's lip ;
 From sky too, the violet's blue.

Thus morn lays the scene,
In ground-work of green,
 The fields, trees and ivy-clad tower,
And dipping her beams
In beauty's rich streams,
 With pencil of light draws each flower.

The snow-drop the snow
Outrivals; the glow
 Of sunset can scarcely outvie
The dew-spangled rose,
When morning's breath blows,
 But in darkness their beauties all die.

For all things to sight
One dress wear at night,
 Rose, snow-drop, blue sea, sober pond:
But, as if charmed things,
All loveliness springs
 At one wave of her magic wand.

Such tricks ev'ry day
Coy Fancy doth play
 —That strange Maja* of Eastern brains—
'Tis God paints each scene,
What is, what has been,
 And deep in the mind it ingrains.

*Appendix V.

Yet the human soul
Is no mere blank scroll,
 Where fancy may write what she wills.
Each faculty, sense,
Force, feeling intense,
 Stands immovable as the hills.

This wonder-fraught earth,
Land of tears, hopes, and mirth,
 —Thing of fancy, on sunbeams hung—
She wraps in cloud-robe,
And spins round a globe
 Light-raying,—itself likewise swung

Somewhere in the blue,
Its race to pursue,
 By centrifugal power hurled on,
In its astral course.
By attractive force,
 Whirled round its own gorgeous sun.

With its galaxy
Of dim stars, which lie
 Strata thick upon strata piled,
In the vast profound,
Which no eye can sound,
 Where even conjecture seems wild.

In eddying whirls,
Worlds heaped upon worlds,
 Thick as leaves in the' autumnal blast,
Or as snow-flakes fly,
In a wintry sky,
 When whole Heaven seems overcast.

Down, down in the deep,
Where cease not nor sleep
 The wonders or works of the All-wise,
Whom not the Infinite
Can exhaust, and yet
 He mouldeth the Butterfly's eyes.

Up, up in the sky,
Where star systems fly, [march,
East, west, north, south, far as thoughts
Until, in despair,
We sink, for e'en there,
The circles of things but enlarge.

As light with her hues
All objects indues,
And on the dark cloud hangs her bow :
So life spans the earth
With beauty and worth,
Enzoning with grace all below.

Life diversifies

Herself: multiplies

Into countless shapes, shades, and things,

Her being: is born

A rosebud, at morn;

At eve, a plumed nightingale, sings.

One while, in a dress

Of strange loveliness, [trothed,

She lifts her chaste brow Spring-be-

A snow drop, with glow

Outvieing the snow,

A bride, in sweet innocence clothed.

Now, shy in the shade,

By the cool cascade,

A primrose or violet blue:

Now, throned like a queen,

A rose-bud, scarce seen

In mantle of moss, starred with dew.

As stem, leaves and root,
Fair flowers and rich fruit,
 One embryo plant-life enfolds:
So, like a vast sun
All-raging, life one
 Earth's wondrous variety holds.

The life 'tis, that moulds
The lily, unfolds
 The soft germ, develops the leaves,
Paints, with pearly light,
The rich petals white,
 And veins with sweet scent interweaves.

The life 'tis, that gilds
The crocus; that builds
 The smooth mushroom and gnarly oak;
And rears to the sky,
Tall pines that defy,
 Yet court too, the lightning's fell stroke.

A Proteus in skill,
Is all things at will,
 Unfolding itself every hour,
In some aspect new
Of fair form and hue, [er.
 Tall tree, humble grass, perfumed flow-

As a crystal broke,
By a ruthless stroke,
 Into glittering fragments flies ;
Each separate part
Hath its Iris heart,
 And rich veins of prismatic dyes.

As perfect and clear,
As a rounded tear
 Is an ocean distinct and whole :
So each life whole, one,
From one life is spun,
 A beam rayed from the central soul.

And life neither tires
Nor rests, but aspires
 Still on, in her glorious career
Of progress; whose car
Rolls sure as a star,* [or clear.
 Though as slow, through skies cloudy

As when a page, bright
With truth's glowing light,
 Yields up its full store to the soul,
Its periods possess
No truth or thought less, [whole.
 Though its students exhaust each the

Or when the brain teems
With phantasy's dreams,
 Flung random, like sparks on the wind,
Or reason outpours
Her purified ores,
 Strained through the Alembic of mind.

The brain loses naught
Of fancy, or thought,
Or wisdom, or feeling, or force;
Each dream, passion, view,
Rolls on ever new, [source.
Welled up from the thoughts' fertile

So life, fresh as morn
On mountain tops born,
Is flush as in spring's glorious bloom;
Or as, in her prime,
When summoned by time, [tomb.
She sprang from the cold dreamless

As love, with soft eyes,
A maiden's cheek dyes,
And mantles in beauty her face;
Or when a grey mist,
By a sunbeam kist,
Is thrilled into many-hued grace.

She photographs all,
The great as the small, [stars;
On Time's canvass—the mass of the
The rainbow on high,
And life-germs that lie
Earth-prisoned, till nature unbars

The portals, whence, rife
With energy, life
Bursts forth into bud, blossom, fruit,
Of thousand-fold shape
And shade,—nut and grape, [root.
Rose, snow-drop, hard grain, pulpy

She paints the wide scene
With groundwork of green,
The fields, trees, and ivy clad tower,
And, dipping her beams
In phantasy's streams,
With pencil of light paints each flower.

Mind touching the springs
 Of being, all things [hued,—
 Shoot up, through the voids, rainbow-
 Blue, golden, or green;
 Storm wrapped or serene, [as viewed,
 High, low, straight, bent, branching;

Through the spectrum, sense,
 The Soul's medium, whence
 All substance material derives
 Its being, and guise
 Of shape, colour, size, [strives
 From whose presence the mind vainly

To emancipate
 Itself, for, by fate
 Enfeebled, it sinks into sense,
 With her shifting views
 Of strange forms and hues, [lens.
 As seen through the mind's coloured

From mind, vital root
Of phenomena, shoot [mits gleam
Trunk and branches, on whose sum-
Star-blossoms, whence flies
Pollen-dust, through all skies, [dream
Earths, moons,—life's bright, beautiful

Of being outspread,
Soul-gendered and fed
By fancy, which weaves the blue sky,
And views the immense
Voids sunless, thro' sense,
The kaleidoscope of the mind's eye;

And spins, at our feet,
Rose, pink, brier sweet, [beams dance,
Through whose leaves the rich sun-
Or poises, afar
In dim night, the star,
Outrolled on the boundless expanse.

All, all imaged here—
On the soul—the sphere [rings—
 Central, stellar—all worlds, moons,
The germ and the tree,
The drop and the sea,
 All astral, terrestrial things.

As, thro' a stained glass,
The rays coloured pass,
 Or as from rare media to dense,
The light, by new force,
Is bent from its course,
 As the angle inclines: so the sense

On all known things acts,
Paints objects, refracts,
 Diminishes, magnifies all,
As curved lines enforce
The light's changeful course,
 Thro' bodies, on which its rays fall.

All knowledge is what
Pure truth mind has got,
From her own golden treasury stole :
Bright, sterling, refined,
The ingots of mind,
Struck off at the mint of the soul.

As a ray bent back
From its onward track,
Reflects but the things it has seen,
So, when mind reveals
New truths, she unseals [been.
The crypt, where her jems have aye

'Tis light lately shed
On a page oft read ;
A leaf of her volume just turned ;
A new bud burst forth
On the bosom of earth ;
A passion unknown till it burned.

Through a prism rays seen,
Blue, yellow, and green,
 In nature a white gleam diffuse,
Hence pencils of bright
And colourless light,
 Paint the mantle of things of all hues.

And thus the soul rich
In all beauties, which
 Encircle the low as the high,
Breathes flowers and soft light,
Or frowns storms and night,
 Or smiles hosts of stars thro' the sky.

This picture of God,
Hung up in the broad,
 Wondrous universe of the soul,
Was by his pen drawn,
Who spread the blue lawn
 Of deep ether, where cea seless roll

Earths, moons, comets, stars—

Nature's glorious cars

Along the great railways of Heaven;

But what their freight, goal,

—As parts, as a whole— [given?

Know we? Hath such knowledge been

When death comes, we shake

Our chains off, awake [worth:

From life's dream, by mind's native

Our coils now unfold,

By death snapped, and bold

The disenthralled spirit steps forth.

Scales drop from the eyes

Of mind, and the guise,

Which thought had assumed during life,

Is shred—like a flower,

By the scathing power [strife;

Of winged lightning—thus ends the

And as a balloon
Springs upward, so soon
 As its cords have slipped their firm tie :
So, springs the glad soul,
Freed from time's control,
 With one bound, to its native sky.

That sky which is near,
Not far off; 'tis here,
 In the soul, not the soul in it ;
And Soul hath not space,
Nor needs it for base,
 A wide universe, or a point.

All spirits might dwell
In a cypris' shell,
 Whose very minuteness astounds,
Feel free, as a fly
In day's open sky,
 And roam through its infinite bounds.

PART IX.

"Has not a deeper meditation taught . . . that the **WHERE** and **WHEN**, so mysteriously inseparable from all our thoughts, are but superficial terrestrial adhesions to thought; that the Seer may discern them where they mount up out of the celestial **EVERYWHERE** and **FOREVER**. . . . Think well, thou too wilt find that Space is but a mode of our human Sense, so likewise Time; there is no Space and no Time; **WE** are—we know not what;—light-sparkles floating in the æther of Deity!

"So that this so solid-seeming World, after all, were but an air-image, our **ME** the only reality: and Nature, with its thousand-fold production and destruction, but the reflex of our own inward Force, the 'phantasy of our Dream;' or what the Earth-Spirit in *Faust* names it, *the living visible Garment of God.*"

—CARLYLE.

What's SPACE but a thought,
 In the sense-loom wrought,
 Inwove in the woof of the mind;
 Each varying scene
 On life's glowing screen,
 By the pen of the spirit designed.

K*

The near and the far,
The grass blade, the star,
 The boundless, the finite, the fair,
The star-spangled blue,
The ocean, the dew,
 And tempest and sunshine are there.

Doth TIME, then, alone,*
For ever rush on,
 To future from present and past :
Or is she too thought,
By sense subtly wrought,
 And on the mind's dial-plate glassed ;

Whose hands each event
—Great, little—present
 To view, on the chart of the soul ;
Where, seen or unseen,
They are and have been,
 Inscribed on her magical scroll

* Appendix W.

Which as we unfold,
Time's story is told,
 With ink sympathetic ; and he,
Who ventures to read
Her secrets, hath need
 To study the soul's alchemy.

— A painting sublime,
All-circling, is time,
 Here sunlit, there buried in clouds,
In which the whole past
For ever stands fast,
 The future night's curtain enshrouds ;

And, stormy or fair,
The present is there,
 In colours so clear and intense,
That, dazzling the eye
With their brilliancy,
 They seem real, not figments of sense.

As, in midnight's hour,
The telescope's power
 Adds firmaments star-strewn and vast,
Where, to the mere eye,
There seems but one sky,
 So, on the sense mirror, is glassed

The present alone ;
The future unknown,
 Still hid in the boundless expanse,
The farseeing eye
Of mind may descry,
 Unveiled by her telescope-glance.

But, as we proceed
Still onward, we read
 Fresh sibylline excerpts of fate :
Discoveries new
Unfolding to view
 New phases of mind's primal state.

As when we behold
A pale rim of gold,
 Suspended at even on high ;
Night's beautiful queen
Is there, as when seen
 Full orbed, in the blue, vaulted sky.

As in voids remote
Vast firmaments float,
 Deep, deeper in widening space ;
So, graved on mind's sky,
Like star systems, lie
 The tableaux of Time's onward race.

And far off and near
Are evermore here :
 The pictures of time, one by one,
Shew through the deep night—
Illumed by the light,
 Like cloud-isles transpierced by the sun.

Whilst things, in Time's womb,
Are seen to assume
 A brilliancy breathing, intense;
The present, which glows
So vividly, flows
 To memory, fading from sense.

But still it is *here* :
The wondrous career
 Of time, on her tragical scroll—
Mapped out, first and last,—
The great living past,
 And stereotyped on the soul.

As autumn's brown leaf,
Infolds the belief,
 That Time had once cradled with care,
And nurtured with food
It's life in the bud,
 And smoothed its pale folds to the air,

And, as in those locks
And furrows, the shocks
 Of time are unveiled to mind's eye ;
Youth, manhood, and age,
Like memory's page,
 Deep graved, with known histories lie.

And whilst, on the brow
Beholding the now,
 The past to infer were compelled ;
So, may not life's whole
Be stamped on the soul,
 The past in the present beheld.

Thus is the immense
A web of the sense, [wrought,
 Where matter, space, time are in-
In hues dark as night,
Or bright as the light,
 Or dim as the shadows of thought.

~~~~~  
In the soul is wrought  
The whole starry vault  
Of Heaven, the blue, bounding sea;  
The fair bark, that rides  
On its surging tides,  
And Zephyr that laughs on the lea.

The visage of night  
With its star-eyes bright;  
The beauty of morning, inwrought  
On time's glowing stream,  
Is a lovely dream—  
All matter but crystallized thought.

But as, in the green,  
Glorious ocean seen,  
An iceberg floats on in its might;  
Cold, solid, and vast,  
Urged by the chill blast,  
But melts in day's southern light:

So matter floats on,  
Earth, satellite, sun,  
    Vast, ponderous, solid, when viewed  
Through life's medium, sense—  
The soul's magic lens  
    Concave-convex, prismatic, all-hued.

But when, on this dream  
Of things, the pure beam  
    Of reason looks in, and compels  
The mind to suspect  
All being time-decked,  
    In soul-woven garb, it dispels

The child-faith, which sense  
Clear, glowing, intense,  
    Throws over the mind, thick as night;  
Dissolving in doubt  
All matter, throughout  
    The wide realms of touch and of sight.

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## APPENDIX.

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### APPENDIX A.

"Tis thus at the roaring loom of time I ply,  
And weave for God the garment thou see'st him by."

—GOETHE, *in Sartor Resartus.*

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### APPENDIX B.

"The Ichthyosaurus, sometimes more than 30 feet long, had the snout of a porpoise, the teeth of a crocodile, (sometimes amounting to 180), the head of a lizard, the vertebræ of a fish, the sternum of an ornithorhynchus, and the paddles of a whale . . . . Its eye was prodigiously large; in one species, the orbital cavity being 14 inches in its longest direction. This eye also, had a peculiar construction to make it operate both like a telescope and a microscope: thus enabling the animal to descry its prey in the night as well as day, and at great depths in the water. The length of its jaws was sometimes more than six feet . . . its habits were carnivorous; its food, fishes and the young of its own species; some of which it must have swallowed of great length."—*Hitchcock's Geology.*

"The scales, bones, and other remains, constantly found in the interior of the skeleton, prove that it was an inhabitant of the sea."  
—*Mantell's Wonders of Geology.*

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 APPENDIX C.

"The Pterodactyle had the head and neck of a bird, the mouth of a reptile, the wings of a bat, and the body and tail of a mammifer . . . its eyes were enormously large, so that it could seek its prey in the night."—*Hitchcock.*

"With flocks of such-like creatures flying in the air, and shoals of no less monstrous ichthyosauri and plesiosauri swarming in the ocean, and gigantic crocodiles and tortoises crawling on the shores of the primeval lakes and rivers; air, sea, and land must have been strangely tenanted in these early periods."—*Buckland, in Hitchcock.*

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 APPENDIX D.

"The remains of men have not been found in any deposit older than alluvium, except in a few cases where they have been probably introduced into drift subsequent to its deposition."—*Lyell's principles in Hitchcock.*

"But not a trace of the trilobite has been discovered above the carboniferous strata."—*Hitchcock.*

"Dr. Buckland estimates the total thickness of all the stratified rocks in Europe to be at least 10 miles."

"In Pennsylvania, fossiliferous rocks beneath the top of the coal measures are more than 7.5 miles in thickness."—*Rogers in Hitchcock.*

"The thickness in feet of the fossiliferous strata in Great Britain, as given in the tabular view of the stratified rocks, with the exception of the Silurian and Cambrian systems, which I give on the authority of Professor Phillips, is as follows:

|               |             |
|---------------|-------------|
| Tertiary..... | 2,000 feet, |
| Chalk.....    | 1,100 do.   |
| Wealden.....  | 900 do.     |
| Oolite.....   | 2,000 do.   |

|                           |            |
|---------------------------|------------|
| Lias.....                 | 700 feet,  |
| Upper New Red.....        | 900 do.    |
| Lower New Red.....        | 800 do.    |
| Carboniferous System..... | 5,700 do.  |
| Old Red Sandstone.....    | 10,000 do. |
| Silurian Rocks.....       | 7,470 do.  |
| Cambrian Rocks.....       | 9,000 do.  |

Total.....40,570 feet; or 7 $\frac{7}{8}$  miles."  
—Hitchcock.

In the Silurian rocks is found the Trilobite: not, until after the Tertiary, man.

## APPENDIX E.

Who made man's eye, had he no skill to make  
*Himself* ten myriads, if in need he stood  
Of media, such as these, through which to view,  
At one wide glance, each spot of his domain?  
*Man's* eye can rest on objects more than one,  
His mind embrace, in quick succession, all:  
Increase *that* power progressively; then pause;  
Say what might *he* not be, and thence infer,  
The vastness of God's attributes, &c. &c.

Though we speak ordinarily of omnipotence and omniscience, yet perhaps *nature* only teaches *us* the vastness of the power in doing, and of apparent wisdom in adjusting means to ends, of the spirit of nature operating in the frame of man, the ganglion of the insect, or the stamen of a flower. But how can we fathom the infinite? Employed by us, are they not words of relative meaning?

## APPENDIX F.

For an account of the calculating machine, here referred to, see the "Vestiges of the Natural History of Creation," and *the argument* of the author. Also, the "Ninth Bridgewater Treatise," by Mr. Babbage.

## APPENDIX G.

“The views which I, (says Sir Charles Lyell,) proposed originally in the Principles of Geology, in opposition to the theory of progressive development, may be thus briefly explained. From the earliest period at which plants and animals can be proved to have existed, there has been a continual change going on in the position of land and sea, accompanied by great fluctuations of climate. To these ever-varying geographical and climatal conditions, the state of the animate world has been unceasingly adapted. No satisfactory proof has yet been discovered of the gradual passage of the earth from a chaotic to a more habitable state, nor of a law of progressive development governing the extinction and renovation of species, and causing the Fauna and Flora to pass from an embryonic to a more perfect condition, from a simple to a more complex organization.”—*Lyell's Manual*.

“A multitude of facts show that the Deity introduced the different races just at the right time. That he did this according to certain laws, though not by their inherent force—for laws have no such force—may be admitted; as may be done in respect to all his operations; but this does not prove them any the less special or miraculous. . . . In short, we may consider it as proved that all the great classes of animals and plants have been represented on the globe so near the commencement of organic life, that no geologist will doubt that it was so from the very beginning.”—*Hitchcock*.

The Thecodont family of Reptiles is allied to the living Monitor, and its appearance in the Lower Permian, “observes Mr. Owen, is opposed to the doctrine of the progressive development of Reptiles from Fish, or from simpler to more complex forms; for, if they existed in the present day, these Monitors would take rank at the head of the Lacertian order.”—*Lyell*.

The author of the “Vestiges,” however, says,—“The great fact established by Geology is, that the organic creation, as we now see it, was not placed upon the earth at once;—it observes a progress. . . . In reality, the whole of the geologists admit that we have, first, the remains of *invertebrated animals*: then with these, *fish*, being the lowest of the vertebrated; next, *reptiles and birds*, which occupy higher grades; and finally, along with the rest, *mammifere*, the highest of all.

"In every classification of the animal kingdom, reptiles rank next above fish, in some living families there is such a convention and intermixture of both characters, that naturalists cannot agree to which class they should be assigned. He actually sees, in a general view of the earlier reptiliferous formations, animals (Ichthyosaur,) combining the fish and the reptile in the most unequivocal manner.

"In Mr. Owen's *Letters on the Invertebrated Animals*, he says—that man's embryotic metamorphoses would not be less striking than those of the butterfly, if subjected like them to observation—and then adds, that the human embryo is first vermiform, next stamped with the characters of the apodal fish, afterwards indicative of the enaliosaur, and so forth. There is another most respectable English physiologist—Dr. Roget—who, in his *Bridgewater Treatise*, explicitly says, 'that the animals which occupy the highest stations in each series possess, at the commencement of their existence, forms exhibiting a *marked resemblance* to those presented in the permanent condition of the lowest animals of the same series; and that, during the progress of their development, they assume in succession the characters of each tribe, corresponding to their consecutive order in the ascending chain.'"—*Explanations of Vestiges, &c.*

"Professor Owen, who last year pronounced that the footprints presented by Mr. Logan, were most probably those of a *chelonian* animal (turtle), not of a land species—a pronouncement which has a prominent place in the last edition of Sir Charles Lyell's *Manual*—read a paper on the 24th of last month before the Geological Society, in which he reversed his former position, and professed his conviction that the footprints were those of animals possessing more than four feet—some eight or ten—consequently that they indicated *invertebrate* animals, most probably crustacean! We extract from the report in the *Athenæum* :—

"The Professor proceeded to observe, that, from their peculiar arrangements, neither to a quadrupedal creature nor a fish-like animal could these imprints be assigned; and yet, with respect to the hypothesis that each imprint was made by its independent limb, I confess to much difficulty in conceiving how seven or eight pairs of jointed limbs could be aggregated in so short a space of the sides of the animal; so that I incline to adopt as the most probable hypo-

thesis, that the creatures which have left these tracts and impressions on the most ancient of known sea-shores belonged to an articulate, and probably crustaceous, genus. With reference to the conjectures that might be formed respecting the creatures that have left these tracts, the Professor observed, that the imagination is baffled in the attempt to realize the extent of time passed since the period when these creatures were in being that moved upon the sandy shores of the Silurian sea, and we know that, with the exception of the most microscopic forms, all the actual species of living beings disappear at a period geologically very recent in comparison with the Silurian epoch. The forms of animals present modifications more and more strange and diverse from actual exemplars as we descend into the depths of time past. Of this the Plesiosaur and the Ichthyosaur are instances in the reptilian class, and the Pterichthys, Coccosteus, and Cephalaspis in the class of fishes. *If then the vertebrate type has undergone such inconceivable modifications during the secondary and Devonian periods, what may not have been the modifications of the articulate type during a period probably more remote from the secondary period than this is from the present time ?*"

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#### APPENDIX H.

"M. Comte, of Paris, has made some approach to the verification of the hypothesis, by calculating what ought to have been the rotation of the solar mass at the successive times when its surface extended to the various planetary orbits. . . 'From the whole of these comparisons,' says he, 'I deduced the following general result:—supposing the mathematical limit of the solar atmosphere successively extended to the regions where the different planets are now found, the duration of the sun's rotation was, at each of these epochs, sensibly equal to that of the actual sidereal revolution of the corresponding planet; and the same is true for each planetary atmosphere in relation to the different satellites.'"—*Vestiges*.

The apparent retrogression of the satellites of Uranus presents the principal difficulty. For a full exposition of the solar-nebular theory, see "*Vestiges*." See also, "*Nichol's Architecture of the Heavens*," &c.

"The following experiments were first conducted by Professor Plateau of Ghent, and afterwards repeated by Dr. Faraday.

“Placing a mixture of water and alcohol in a glass box and pouring thereon a small quantity of olive oil, of density precisely equal to the mixture, we have in the latter a *liquid mass relieved from the operation of gravity*, and free to take the exterior form given by the forces which may act upon it. In point of fact, the oil instantly takes a *globular form* by virtue of molecular attraction. A vertical axis being introduced through the box, with a small disc upon it, so arranged that its centre is coincident with the centre of the globe of oil, we turn the axis at a slow rate, and thus set the oil sphere into rotation. ‘We then presently see the sphere *flatten at its poles and swell out at its equator*, and we thus realize, on a small scale, an effect which is admitted to have taken place in the planets.’ The spherifying forces are of different natures,—that of molecular attraction in the case of the oil, and of universal attraction in that of the planet, but the results are analogous, if not identical. ‘Quickening the rotation makes the figure more oblately spheroidal. When it comes to be so quick as two or three turns in a second, the liquid sphere first takes rapidly its maximum of flattening, then becomes hollow above and below, around the axis of rotation, stretching out continually in a *horizontal direction*, and, finally, abandoning the disc, is *transformed into a perfectly regular ring*.’ At first this remains connected with the disc by a thin pellicle of oil, but, on the disc being stopped, this breaks and disappears, and the ring becomes completely disengaged. The only observable difference between the latter and the rings of Saturn is, that it is rounded, instead of being flattened; but this is accounted for in a satisfactory way. A little after the stoppage of the rotary motion of the disc, the ring of oil, losing its own motion, gathers once more into a sphere. If, however, a smaller disc be used, and its rotation continued *after the separation* of the ring, rotatory motion and centrifugal force will be generated in the alcoholic fluid, and the oil ring, thus prevented from returning into the globular form, divides itself into ‘*several isolated masses, each of which immediately takes the globular form*.’ These are almost always seen to assume, at the instant of their formation, a *movement of rotation upon themselves*—a movement which constantly takes place *in the same direction as that of the ring*. Moreover, as the ring, at the instant of its rupture, had still a remainder of velocity, the spheres, to which it has given birth, tend to fly off at a tangent; but as, on the other side, the disc, turning in the alcoholic liquor, has impressed on this

a movement of rotation, the spheres are especially carried along by this last movement, and *revolve for some time round the disc*. Those which revolve at the same time upon themselves, consequently then present the curious spectacle of *planets revolving at the same time on themselves and in their orbits*. Finally, another very curious effect is also manifested in these circumstances: besides three of four large spheres into which the ring resolves itself, there are almost always produced one or two very small ones, which may thus be compared to satellites. The experiment which we have thus described, presents as we see, an image in miniature of the formation of the planets, according to the hypothesis of Laplace, by the rupture of the cosmical ring, attributable to the condensation of the solar atmosphere."—*Vestiges of the Natural History of Creation*.

"My starting point was a statement of the arrangements of the bodies of space, with a hypothesis respecting the mode in which those arrangements had been effected. It is a mistake to suppose this (nebular) hypothesis essential, as the basis of the entire system of nature developed in my book. That basis lies in the material laws found to prevail throughout the universe, which explain why the masses of space are globular; why planets revolve round suns in elliptical orbits; how their rates of speed are high in proportion to their nearness to the centre of attraction; and so forth. In these laws arises the first powerful presumption that the formation and arrangements of the celestial bodies were brought about by the Divine will, *acting in the manner of a fixed order or law*, instead of any mode which we conceive of as more arbitrary. It is a presumption which an enlightened mind is altogether unable to resist, when it sees that precisely similar effects are every day produced by law on a small scale, as when a drop of water spherifies, when the revolving hoop bulges out in the plane of its equator, and the sling, swung round in the hand, increases in speed as the string is shortened. The philosopher, on observing these phenomena, and finding incontestable proof that they are precisely of the same nature as those attending the formation and arrangement of worlds, learns his first great lesson—that the natural laws work on the minutest and the grandest scale indifferently; that, in fact, there is no such thing as great and small in nature, but world spaces are as a hair-breadth, and a thousand years as one day.

"It would strengthen the presumption, and, indeed, place it near

to ascertained truths, if we were to obtain strong evidence for what has hitherto been called the nebular hypothesis. The evidence for it is sketched in the *Vestiges*; it is exhibited . . . in Professor Nichol's *Views of the Architecture of the Heavens*. The position held by this hypothesis in the philosophical world, when my book was written, is shown, with tolerable distinctness, in the *Edinburgh Review* for 1888, where it is spoken of in the following general terms:—"These views of the origin and destiny of the various system of worlds which fill the immensity of space, break upon the mind with all the interest of novelty, and *all the brightness of truth*. Appealing to our imagination by their grandeur, and to our reason by the *severe principles on which they rest*, the mind feels as if a revelation had been vouchsafed to it of the past and future history of the universe."

"The chief objection taken to the theory is, that the existence of nebulous matter in the heavens is disproved by the discoveries made by the Earl of Rosse's telescope. By this wondrous tube, we are told it is shown to be 'an unwarrantable assumption that there are in the heavenly spaces any masses of matter different from solid bodies composing planetary systems.'" The fact is, that the nebulae were always understood to be of two kinds: 1, nebulae which were only distant clusters, and which yielded, one after another, to the resolving powers of telescopes, as these powers were increased; 2, nebulae comparatively near, which no increase of telescopic power affected. Two classes of objects wholly different were, from their partial resemblance, recognized by one name, and hence the confusion which has arisen upon the subject."—*Explan. of Vestiges*.

Professor Nichol says, "For instance, the nebula in Orion is visible to the naked eye, as also is the gorgeous one in Andromeda; while the largest instrument heretofore turned to them has given no intimation that their light is stellar, but rather the contrary; although small stars are found buried amidst their mass. Now, if Lord Rosse's telescope resolves these, and others with similar attributes, such as some of the streaks among the following plates, we shall thereby be informed that we have generalized too hastily from the character of known firmaments."

"The foregoing being our grounds of belief in the existence of

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\* North British Review, iii., 477.

nebulae—first, in a diffused or chaotic state, and again in a condition proximate to pure stars; the only remaining point has reference to nebulae in an intermediate state,—when the roundish masses seem to have begun a process of organization or concentration, and carried it onwards through several stages: a state to which we have every variety of analogon in the various forms and densities of cometic nuclei. Sir William Herschel certainly was not ignorant that round or spherical clusters abound in the skies, which, when first seen, present all the appearances of such nebulae—nay, he grounded on the fact of their approximate sphericity and varying degrees of concentration, some of the boldest and most engrossing of his conjectures; nor would he have doubted that multitude which, even to his instruments, seemed only general lights, would, in after times, be resolved; but here, as before, the gist of the question is not, can you resolve round nebulae never resolved before; but can you resolve such as, quite within the range of former vision, have continued intractable under the scrutiny of powers which, judging from the average of our experience, must surpass what ought to have resolved them?”—*Explanations of Vestiges.*

“Herschel was led to the conclusion, that among the nebulae which were visible in the heavens, there were some composed of chaotic matter, a hazy, luminous fluid, like that occasionally thrown out from comets on their approach to the sun.

“Among these chaotic masses he discovered some in which the evidences of condensation appeared manifest, while in others he found a circular disc of light, with a bright nucleus in the centre. Proceeding yet farther, he found well formed stars surrounded by a misty halo, which presented all the characteristics of what he now conceived to be nebulous fluid. Some of the unformed nebulae were of enormous extent, and among those partially condensed, such as the nebulae with planetary discs, many were found so vast that their magnitude would fill the space occupied by the sun and all its planets, forming a sphere with a diameter of more than 6000 millions of miles. Uniting these and many other facts, the great astronomer was finally brought to believe, that worlds and systems of worlds might yet be in the process of formation, by the gradual condensation of this nebulous fluid, and that from this chaotic matter originally came the sun and all the fixed stars which crowd the heavens. This theory, extended, but not modified, in the hands of Laplace, is

made to account for nearly all the phenomena of the solar system.

"For a long time, this bold and sublime speculation was looked upon, even by the wisest philosophers, with remarkable favour. The resolution of one or two nebulae (so classed by Herschel,) with the fifty-two feet reflector of Lord Rosse, has induced some persons to abandon the theory, and to attempt to prove its utter impossibility. All that I have to say, is, that Herschel only adopted the theory after he had resolved many hundreds of nebulae into stars; and if there ever existed a reason for accepting the truth of this remarkable speculation, that reason has been scarcely in any degree affected by recent discoveries.

"I have examined a large number of the mysterious objects, floating on the deep ocean of space like the faintest filmy clouds of light. No power, however great, of the telescope, can accomplish the slightest change in their appearance. So distant that their light employs (in case they be clusters) hundreds of thousands of years in reaching the eye that gazes upon them, and so extensive, even when viewed from such a distance, as to fill the entire field of view of the telescope many times. Sirius, the brightest, and probably the largest of all the fixed stars, with a diameter of more than a million miles, and a distance of only a single unit, compared with the tens of thousands which divide us from some of the nebulae; and yet this vast globe, at this comparatively short distance, is an inappreciable point in the field of the telescope."—*Mitchel*.

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#### APPENDIX I.

"The following discourses . . . were intended to explain what is meant by the nature of man, when it is said that virtue consists in following, and vice in deviating from it, and, by explaining, to show that the assertion is true." Again,—"*There are as real and the same kind of indications in human nature, that we were made for society and to do good to our fellow-creatures, as that we were intended to take care of our own life and health, and private good, and that the same objections lie against the one of these assertions as against the other.*

"Had conscience strength, as it has right; had it power, as it has manifest authority, it would absolutely govern the world. This

gives us a further view of the nature of man; shews us what course of life we were made for." . . . . "As in civil government the constitution is broken in upon and violated by power and strength prevailing over authority; so the constitutional man is broken in upon and violated by the lower faculties, or principles within, prevailing over that, which is in its nature supreme over them all." Again,—“It will as fully appear, that this our nature, *i. e.* constitution, is adapted to virtue, as from the idea of a watch it appears, that its nature, *i. e.* constitution or system, is adapted to measure time. What in fact or event commonly happens, is nothing to this question. Every work of art is apt to be out of order; but this is so far from being according to its system, that let the disorder increase, and it will totally destroy it.”

And he thinks, “that, from what appears, there is no ground to assert, that those principles in the nature of man, which most directly lead to promote the good of our fellow-creatures, are more generally, or in a greater degree violated, than those which most directly lead us to promote our own private good and happiness.”  
—*Bishop Butler's Sermons on Human Nature and Preface.*

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 APPENDIX J.

(Insert the following verses—omitted by mistake—after the last verse on page 51.)

How matchless that hand,  
Whose muscles expand,  
Or contract, round the circle of sight,  
To abridge or enlarge  
The pupil's scant marge,  
As we pass from bright day into night.

How curious to find  
The eye, from behind,  
Swung forward by pully and chord,  
That, on the sky's rim,  
Yon spire-top be seen,  
No less than this green trampled sward.

But why linger more  
 On subjects, whose store  
 Of seeming adjustments to ends  
 Abounds, in bird, brute,  
 Fish, insect, and fruit,  
 And far as life's empire extends.

Doth God lack the skill,  
 Or, further, the will,  
 To render his creature here blest?  
 Is Death the one goal  
 Of all; life man's whole  
 Of being; his dream of unrest?

And yet, when we see  
 The variety  
 Of boundless, benignant design,  
 Or seeming; and look  
 Within the God's book,  
 The brain, on whose pages divine

Is writ, by the hand  
 Of God, each command,  
 To reverence truth and do right,  
 Be kind, and still hope;  
 We ask, if their scope,  
 When read in the heart's mellow light,

Points not, through the' abyss  
 Of darkness, to this,  
 Eventual truth, right, and good?  
 Or shall he, who wore  
 Toil's gart, evermore  
 Be o'erlooked or forgotten by God?

But if in the sky  
 He dwells, whom the cry  
 Of manifold misery moves,

hat course  
 nment the  
 d strength  
 broken in  
 ithin, pre-  
 them all."  
 e. constitu-  
 it appears,  
 o measure  
 ing to this  
 but this is  
 disorder in-

no ground  
 which most  
 s, are more  
 which most  
 happiness."  
 ce.

last verse

If woe be the blight  
 Of being—the night,  
 Whose permanence God disapproves.

If life has a plan,  
 And good will to man  
 Stands clearly defined in the scheme :  
 Then, is the effect  
 Such, as we connect  
 With skill, power, and goodness supreme ?

Yet nature draws good  
 From all things : the food  
 Of life from the limbs of the dead  
 No blade runs to waste ;  
 The germ in the mast  
 By the sere leaves of autumn is fed.

But if not down here,  
 Exists there nowhere  
 In the empires of mind, time, or space,  
 A kingdom where good  
 Dies not in the bud  
 But ever unfolds, in rich grace,

By God-conferred power,  
 The bud into flower,  
 The flower into ripe, golden fruit,  
 To thus make it clear  
 At length, in each sphere,  
 That all things in goodness have root.

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 APPENDIX K.

I think it right to make some acknowledgments to the able author of an article in a late number of the *Westminster Review*, on the book of Job, for some remarks on this subject : and here let me acknowledge my indebtedness to any author, to whom, consciously or unconsciously, I may be under any literary obligations.

## APPENDIX L.

*What is God? What is nature? What are we? What is the nature of our mutual relations? Do we live in the pulsations of his being, as the flower in the tree? Or sitteth he in the circle of the Heavens, spinning systems within systems through the azure firmament, and yet personally overseeing the minutest incident on earth? Is he satisfied in his dealings with us? Whence come we, and whither do we go? To such questions what answers do we get from reason? "Is it a pleasure to the Almighty that thou art righteous: or a gain to him, that thou makest thy ways perfect before him?" Or takes he satisfaction, on his own account, in the obedience and praises of man?*

"Is God-head allied  
To the weakness of him he hath made?"

—PAGE 60.

*Is the love of approval a weakness? Or is it untrue, or a lowering of the Divine, to suppose that he has pleasure in the awe-struck admiration of man? Is genuine greatness and nobleness affronted at the thought? Does it anthropomorphose Deity? How narrow is the compass of our positive knowledge!*

## APPENDIX M.

*What is the end of worship? The good it is calculated to do us; or the satisfaction it gives God; or both? Worship is the outgoing of the reverential feelings towards its object.*

## APPENDIX N.

*But the "wind" in all its fluctuations, and "dreams" in their wildest vagaries, are themselves the result of causes adequate and only adequate to their production.*

M\*

to the able  
Review, on  
here let me  
consciously  
ns.

## APPENDIX O.

“Were there no stronger objections against” this doctrine “than this universal contradiction which it offers to all human belief, conduct and language, to all judgments and feelings, it would even then be more completely answered than it deserves.”

According to “Hume, a cause is merely the aggregate of circumstances constantly preceding in nature the production of any effect.”—*Jouffroy's Introduction to Ethics*.

We give both sides. Let the thoughtful reader carefully draw his own conclusion.

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## APPENDIX P.

That is, in the very act of dreaming we ask, can it be a dream when we see, &c.

“The illusion of dreams is much more complete than that of the most exquisite plays. We pass, in a second of time, from one country to another, and persons who lived in the most different ages of the world, are brought together in strange and incongruous confusion.”—*Macnish*.

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## APPENDIX Q.

Swedenborg, for instance.

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## APPENDIX R.

Manso, the friend of Tasso, had, says Mr. Hoole. “an opportunity of examining the singular effects of Tasso’s melancholy, and often disputed him concerning a *familiar spirit* which he pretended conversed with him: Manso endeavored in vain to persuade his friend that the whole was the illusion of a disturbed imagination; but the latter was strenuous in maintaining the reality of what he asserted, and, to convince Manso, desired him to be present at one of the mysterious conversations. Manso had the complaisance to meet him the next day, and while they were engaged in discourse, on a sudden he observed that Tasso kept his eyes fixed on a window, and

remained in a manner immovable; he called him by his name, but received no answer; at last Tasso cried out, 'There is the friendly spirit that is come to converse with me; look! and you will be convinced of all I have said.' Manso heard him with surprise; he looked but saw nothing except the sunbeams darting through the windows; he cast his eyes all over the room, but could perceive nothing; and was just going to ask where the pretended spirit was, when he heard Tasso speak with great earnestness, sometimes putting questions to the spirit, sometimes giving answers: delivering the whole in such a pleasing manner, and in such elevated expressions, that he listened with admiration, and had not the least inclination to interrupt him. At last the uncommon conversation ended with the departure of the spirit, as appeared by Tasso's own words, who, turning to Manso, asked him if his doubts were removed. Manso was more amazed than ever; he scarce knew what to think of his friend's situation, and waived any further conversation on the subject."—*Macnish's Philosophy of Sleep.*

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 APPENDIX S.

"The tree is green and hard, not of its own natural virtue, but simply because my eye and my hand are fashioned so as to discern such and such appearances under such and such conditions."—*Carlyle's Essay on Novalis.*

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 APPENDIX T.

See a clever article in a late number of the *London Quarterly*, on Biology, &c.

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 APPENDIX U.

"The sun, attended by all its planets, satellites, and comets, is sweeping through space towards a star in the constellation Hercules with a velocity which causes it to pass over a distance equal to 83,350,000 miles in every year . . . with but one chance out of 400,000 that astronomers have been deceived." "The extension of the law of gravitation to the fixed stars . . . settles forever the fact, that in the grand association of stars composing our clus-

ter, or, as we shall hereafter call it, our *astral system*, there must be a *centre of gravity*, as certainly as there is one to the solar system." "The data for such an examination must be found in the direction of the solar motion, and in that of the proper motion of the fixed stars." . . . "After a profound examination, Maedler reached the conclusion that *Acyone, the principal star in the group of the Pleiades, now occupies the centre of gravity, and is at present the sun about which the universe of stars composing our astral system are all revolving.*"—*Mitchel.*

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APPENDIX V. (to Page 107.)

For the idealism of India, see the works of Sir William Jones.

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APPENDIX V. (to Page 114.)

"Like as a star,  
That maketh not haste,  
That taketh not rest,  
Be each one fulfilling  
His God-given hest."

—GOETHE IN CARLYLE.

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APPENDIX W.

"Turgot said, 'He that has never doubted the existence of matter, may be assured he has no aptitude for metaphysical enquiries.'" —*Emerson.*

Mr. Carlyle says, "In all (?) German systems, since the time of Kant, it is a fundamental principle to deny the existence of matter; or rather, we should say, to believe it in a radically different sense from that in which the Scotch Philosopher, &c. Indeed, it is singular how widely diffused, and under what different aspects we meet with it among the most dissimilar classes of mankind. Our Bishop Berkley seems to have adopted it from religious inducements; Father Boscovich was led to a very cognate result . . . from merely mathematical considerations. Of the ancient Pyrrho or the

modern Hume, we do not speak: but in the opposite end of the earth, as Sir William Jones informs us, a similar theory of immemorial age, prevails among the Theologians of Hindostan. Nay, Professor Stuart has declared his opinion, that whoever at some time of his life has not entertained this theory, may reckon that he has shown no talent for metaphysical research.

"The Idealist boasts that his Philosophy is transcendental, that is, 'ascending *beyond* the senses.' . . . To a transcendentalist, matter has an existence but only as a phenomenon: were *we* not there, neither would it be there; it is a mere relation, or rather the result of a relation between our living souls and the great first cause . . . Bring a sentient Being, with eyes a little different, with fingers ten times harder than mine, and to him that thing which I call a tree shall be yellow and soft, as truly as to me it is green and hard. Form his nervous structure in all points the *reverse* of mine, and this same tree shall not be combustible, or heat producing, but dissoluble and cold producing; not high and convex, but deep and concave. There is, in fact, says Fichte, no tree there, but only a manifestation of power from something which is *not I*. . . .

"But farther . . . according to these Kantian systems, the organs of the mind too, what is called the understanding, are of no less arbitrary, and, as it were, accidental a character than those of the body . . . there is no time and no space *out* of the mind; they are mere *forms* of man's spiritual being, *laws* under which his thinking nature is constituted to act. This seems the hardest conclusion of all; but it is an important one with Kant; and is not given forth as a dogma, but carefully deduced in his '*Critik der Reinen Vernunft*' with great precision, and the strictest form of argument."—*Essay on Novalis*.

Emerson says, "Idealism acquaints us with the total disparity between the evidence of our own being and the evidence of the world's being. . . Idealism sees the world in God. It beholds the whole circle of persons and things, of actions and events, of country and religion, not as painfully accumulated, atom after atom, act after act, in an aged creeping past, but as one vast picture, which God paints on the instant eternity, for the contemplation of the soul."—*Essays*.

"Kant," says Menzel, "had adopted a subjective knowledge of

the objective world, and had put the two in such relations with each other, that we perceive an object indeed, but only according to subjective laws of the reason within us, and that the object indeed appears to us only under the subjective conditions, but yet may be something in itself. It was observed that this could lead to no absolute knowledge, and the absolutists separated from the school. Some became absolute subjectists, who directly denied the independent existence of the objective world, which Kant had left in doubt; others became absolute objectists, who made the subjective perception dependent on the real existence of the object; others still adopted an absolute identity between soul and nature, the subjective and objective world, the perception and its object. . . . To Schelling, mind and nature are alike mere emanations, phenomena, manifestations of the divine idea."—*German Literature*.

"With God as it is a universal HERE, so is it an everlasting NOW. And seeest thou therein any glimpse of IMMORTALITY. . . . Is the lost Friend still mysteriously Here, even as we are Here mysteriously with God."—CARLYLE.

Causes are potent, (I think, I have seen it so stated,) in proportion as they recede from the material towards the spiritual—water, by its weight, *i. e.*, invisible gravity; and as invisible steam. What are heat, electricity, magnetism? My arm is moved by imponderable, impalpable, invisible mind. Has matter, as such, any, or what force?

And are not the questions important, whether matter be the creature of the mind; or the mind, the result of a certain organization of matter; or whether matter and mind—though a disease of some of the material organs seems to weaken or confuse, and eventually to destroy, the thinking powers—be not distinct, and matter merely furnish the organs through which the mind acts. On these and other questions, to whatever side my impressions, as a Student of Nature, or inclinations may lean, I wish the Reader to form an independent opinion; as though, when not the advocate, in rhyme or otherwise, of a particular dogma, I had no opinion of my own.

Is not our life a *mystery*? "The man who cannot wonder, were he President of innumerable Royal Societies, and carried the whole *Mecanique Celeste* . . . in his head, is but a pair of Spectacles behind which there is no eye."—*Sartor Resartus*.

"To this one end of Discipline, all parts of nature conspire. A noble thought perpetually suggests itself, whether this end be not the Final Cause of the Universe; and whether nature outwardly exists. It is a sufficient account of that appearance we call the World, that God will teach a human mind, and so makes it the receiver of a certain number of congruent sensations, which we call sun and moon, man and woman, house and trade. In my utter impotence to test the authenticity of the report of my senses, to know whether the impressions they make on me correspond with outlying objects, what difference does it make whether Orion is up there in Heaven, &c. . . . or, whether, without relations of time and space, the same appearances are inscribed in the constant faith of man" . . . . whose "wheels and springs are all set to the hypothesis of the permanence of nature."

"Nature is a discipline . . . space, time, society, labour, climate, food, locomotion, the animals, the mechanical forces, give us sincerest lessons, day by day, whose meaning is unlimited . . . every property of matter is a school for the understanding, which adds, divides, combines, measures." . . . "Meantime, Reason transfers all these lessons into its own world of thought." . . . "Our dealing with sensible objects is a constant exercise in the necessary lessons of difference, of likeness, of order, of being and seeming. . . . Proportioned to the importance of the organ to be formed, is the extreme care with which its tuition is provided . . . . What tedious training, day after day, year after year. . . . to form the common sense; what continual reproduction of annoyances, inconveniences, dilemmas." . . . . "What a searching preacher of self-command is the varying phenomenon of Health."

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The fossiliferous strata in an *ascending* scale, commencing from the oldest to the most recent.\*

PRIMARY.

*Lower Silurian* contains *invertebrate* creatures: no land plants.

*Upper Silurian*—Oldest fossil *fish*.

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\*For the subject-matter of this, see the "Manual" of Sir C. Lyell, whose very words are generally employed. In this list we give a few of the (supposed) highest creatures in each stratum or group.

\* *Old Red Sandstone*—Tribe of fish with hard coverings like chelonian: oldest known *reptile*, *Archegosaurus*.

*Carboniferous*—Reptiles.

*Permian or Magnesian Limestone Group*—Thecodont Saurians.

#### SECONDARY.

*Trias or Upper New Red*—Batrachian Reptiles, probably, tracks of *Birds* in the supposed *Trias* of Connecticut, and two molar teeth with "the characteristic *mammalian* test, the double fang."

*Lias*—Reptiles extraordinary in number, size, and structure.

*Oolite*—Saurians, flying Saurians, three species of *Mammalia*.

*Wealden*—Reptiles of the genera *Pterodactyl*, *Iguanodon*, *Megalosaurus*, *Emys*, &c.

*Oretaceous*—A Marine formation. A rich Reptilian Fauna; turtles, oviparous Saurians, *Pterodactyl*.

#### TERTIARY. †

*Eocene*—"All the *Mammalia* of extinct species, and the greater part of them of extinct genera."

*Miocene*—"All the *Mammalia* extinct."

*Pliocene*—"Nearly, if not all, the *Mammalia* extinct."

*Pleistocene*—"A majority of the *Mammalia* extinct; but the genera corresponding with those now surviving in," &c.

#### POST TERTIARY.

*Post-Pleistocene*—"Bones of quadrupeds, partly of extinct species."

*Recent*—"Human remains and works of art."‡

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\* "The link supplied by the whole assemblage of imbedded fossils, connecting as it does the paleontology of the Silurian and Carboniferous groups, is of the highest interest, and equally striking, whether we regard the *genera* of corals or of shells. The *species* are almost all distinct."

† "Mr. Owen, to whom I have shown a cast of the smaller tooth, is not able to recognize its affinity with any mammalian type, recent or extinct, known to him."—*Lyell's Manual*.

‡ A "Monkey of the genus *Macacus* . . . and other *Quadrupeds* . . . in different stages of the Tertiary."—*Lyell*.

| That an animal has not yet been detected in a formation, is in itself no absolute proof that it does not exist, or has not existed, in it. Only two teeth seem to testify to the existence of *Mammalia* in the *Trias*. New facts may antedate, (or may have antedated,) our present knowledge, and yet not invalidate or disturb a broad generalization; or they may.

APPENDIX

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coverings like

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probably, tracks  
two molar teeth  
ble fang."

nd structure.  
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Iguanodon, Me-

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