NOTICE.

THIS volume has been delayed for some weeks, from the expectation that the Engraver would be able to complete, from a beautiful Miniature by Hilliard, a Portrait of Lord Bacon when he was between seventeen and eighteen years of age: but as a month must yet elapse before the Engraver can venture to submit his Work to public inspection, I have thought it right to publish this volume, with the assurance that this Portrait will appear in the next volume. In the course of the Work there will also be Portraits of Lord Bacon when he was twelve years of age—when he was Lord Chancellor—when he was sixty-five years of age—and an Engraving from his Monument in St Michael's Church.

DEDICATED, BY PERMISSION,

TO

THE KING.

A NEW EDITION OF

THE WORKS

OF

LORD BACON.

BY

BASIL MONTAGU, ESQ.

LONDON:

WILLIAM PICKERING, CHANCERY LANE.

1825.

National Oceanic and Atmospheric Administration

ERRATA NOTICE

One or more conditions of the original document may affect the quality of the image, such as:

Discolored pages
Faded or light ink
Binding intrudes into the text

LASON
Imaging Contractor
12200 Kiln Court
Beltsville, MD 20704-1387
August 1, 2007

Blank page retained for pagination

ADDRESS.

THE works of LORD BACON may be considered as

1. PHILOSOPHICAL.
2. POLITICAL.
3. LEGAL.

OR

4. MISCELLANEOUS.

His important work, which contains his Philosophy, and upon which his fame depends, is the "INSTAURATIO MAGNA."

It consists of a preface, and of six distinct parts into which it is divided:

I. PARTITIONES SCIENTIARUM.—A survey of the then existing knowledge, with a designation of the parts of science which were unexplored; —*the cultivated parts of the intellectual world, and the deserts.*

II. NOVUM ORGANUM.—The art of invention, or the conduct of the understanding in the discovery of truth.

III. PHENOMENA UNIVERSI.—History, natural and experimental, as a foundation for true philosophy.

IV. SCALA INTELLECTUS.—An application of the Novum Organum by gradual instances and examples.

V. PRODROMI, sive Anticipationes Philosophiæ secundæ—Anticipations of the sixth part.

VI. SECUNDA PHILOSOPHIA, sive Scientia Activa.—The system of philosophy which results from the sincere and strict enquiry prescribed in the former parts.

Since the year 1730 there have been seven editions of the Works of Lord Bacon. In 1730, 4 vols. folio; 1740, 4 vols. folio; 1753, 3 vols. folio; 1765, 5 vols. 4to; 1778, 5 vols. 4to; 1803, 10 vols. 8vo. 1819, 10 vols. 8vo.

It may seem extraordinary, that there is not in either of these editions a translation of any part of the Instauratio Magna:——the Advancement of Learning, which was published in two books, in English, in 1605, not being, as is frequently supposed, a translation of the De Augmentis Scientiarum, which was published in nine books, in Latin in 1623. (*a*)

(*a*) They differ in extent, and there are many passages in each of these works which are not contained in the other. The beautiful passage for instance, upon Queen Elizabeth, is in the Advancement of Learning, concerning the conjunction of learning in the prince, with felicity in the people, is not in the "De Augmentis."

The treatise "De Augmentis," being more extensive, abounds with passages that are not contained in "The Advancement." I will take one specimen from each subject into which the work is divided:—viz. from,

History, relating to the Memory.
Poetry, relating to the Imagination. And
Philosophy, relating to the Understanding.

In the treatise De Augmentis, natural History is divided—

1. As to the subject:
   1. Of Nature in Course.
   2. Of Nature Erring.
   3. Of Arts.
2. *As to the use*:
   1. *Narrative.*
   2. *Inductive.*

But the division, *as to the use*, &c. is not contained in the Advancement.

Under Poetry—The fable of Pan, of Perseus, &c. which are not in the Advancement, will be found in the treatise De Augmentis.

It may, perhaps, seem more extraordinary that in the edition of 1753, which has been followed by

---

Under Philosophy—Speaking of the advancement of universal justice or the laws of laws, he says, " I propose, if God give me leave, having begun a work of this nature in aphorisms, to propound it hereafter, noting it in the mean time for deficient." *In the treatise De Augmentis*, considerable progress is made in this projected work, in forty-seven distinct axioms, of which the following is a specimen: " Antequam vero ad corpus ipsum legum particvlarium deveni-" amus; perstringemus paucis virtutes et dignitates legum in genere. " Lex bona censeri possit quæ sit intimatione certa, præcepto justa, " executione commoda; cum forma politiæ congrua et generans " virtutem in subditis."

In Archbishop Tenison's Baconiana, the progress of this work, and the difference between the De Augmentis and the Advancement is explained. In the conclusion of his observations, he says, " I have " seen a letter, written by certain gentlemen to Dr. Rawley, wherein " they thus importune him for a more accurate version, by his own " hand:—' It is our humble suite to you, and we earnestly solicit you, " ' to give yourself the trouble, to correct the too much defective " ' translation of De Augmentis Scientiarum, which Dr. Wats hath " ' set forth. It is a thousand pities, that so worthy a piece should " ' lose its grace and credit by an ill expositor; since those persons, " ' who read that translation, taking it for genuine, and upon that " ' presumption not regarding the Latine edition, are thereby robbed " ' of that benefit which (if you would please to undertake the busi-" ' ness) they might receive. This tendeth to the dishonour of that " ' noble Lord, and the hindrance of the Advancement of Learning."'

Of the correctness or incorrectness of these observations, some estimate may be formed from the following specimens.

The Instauratio Magna thus begins:

FRANCISCUS DE VERULAMIO
SIC COGITAVIT.

Translation by Wats.—

FRANCIS Lord VERULAM
CONSULTED THUS.

Another Specimen.—Advancement of Learning.

We see in all other pleasures there is satiety, and after they be used, their verdure departeth; which sheweth well they be but deceits of pleasure, and not pleasures; and that it was the novelty which pleased, and not the quality; and therefore we see that voluptuous men turn friars, and ambitious men turn melancholy; but

the subsequent editions, the Editor has, without any authority, ventured to alter the whole of Lord Bacon's own arrangement of the third and fourth parts of the Instauration. (*b*)

---

of knowledge there is no satiety, but satisfaction and appetite, are perpetually interchangeable; and therefore appeareth to be good in itself simply, without fallacy or accident.

Wats's Translation.

In all other pleasures there is a finite variety, and after they grow a little stale, their flower and verdure fades, and departs; whereby we are instructed that they were not indeed pure and sincere pleasures, but shadows and deceits of pleasures; and that it was the novelty which pleased, and not the quality; wherefore, voluptuous men often turn friars, and the declining age of ambitious princes is commonly more sad and besieged with melancholy; but of knowledge there is no satiety, but vicissitude, perpetually and interchangeably returning, of fruition and appetite; so that the good of this delight must needs be simpler, without accident or fallacy.

(*b*) This will appear by a reference to the following treatises:—

Historia Ventorum.—Historia Densi et Rari.—Historia Gravis et Levis.—Historia Sympathiæ et Antipathiæ.—Historia Sulphuris, Mercuriæ et Salis.—Historia Vitæ et Mortis.

These different treatises in all the editions previous to the edition of 1753, are sections of the *third part* of the Instauratio: and the *fourth section* is only a fragment. In the editions of 1753, and 1778, and 1803, and 1819, they form sections of *the fourth* part, which appears to be a complete work.

The question is, which arrangement is correct?

In the year 1623, Lord Bacon published his History of Life and Death; the title is, Historia Vitæ et Mortis Sive Titulus Secundus in Historia Naturali Experimentali ad condendam Philosophiam Quæ est Instaurationis Magnæ pars Tertia.

In the year 1670, Archbishop Tenison, who was intimate with Dr. Rawley, Lord Bacon's first and last chaplain as he always describes himself, published his Baconiana, in which there is an outline of the Instauration. He arranges all these sections according to the arrangement of Lord Bacon, and of the "History of Life and Death," he says, this is the *sixth section of the third part of the Instauration. This work, though ranked last amongst the six monthly designations, yet was set forth in the second* place. His Lordship, as he saith, inverting the order, in respect of the prime use of this argument, in which the least loss of time was by him esteemed very precious; and as to "*the fourth part of the Instauration*, it passed not beyond the model in the head of the noble author."

In the year 1733, an English edition of the Philosophical Works was published by Dr. Shaw, a great admirer of the philosophy of Lord Bacon, and intimately acquainted with his writings. This edition does not contain the whole works of Lord Bacon—It does not contain any of the Latin Philosophical Works, although the preface says, "there has been a difference of opinion as to the merits of Lord Bacon, principally owing to this, that in this country we read only the English, and foreigners only the Latin Works of the Author."—It does not even profess to contain correct translations.—The translations are not good of those parts which are attempted to be translated; and the arrangement and titles of various parts are not the works of Lord Bacon, but fancied improvements by the editor (c) Upon the

---

(c) *Dr. Shaw's Preface.*

The method observed in thus rendering them into English, *is not that of a direct translation*; but a kind of open version, &c.

The liberty sometimes taken, not of abridging (for just and perfect writings are incapable of abridgment,) but of dropping or leaving out some part of the author's writings, may require greater excuse. But this was done to shorten the works, &c.

I subjoin the following specimen of translations:—

Advancement of Learning.

The honest and just bounds of observation, by one person upon another, extend no farther but to understand him sufficiently, whereby not to give him offence, or whereby to be able to give him faithful counsel, or whereby to stand upon reasonable guard and caution in respect of a man's self; but to be speculative into another man, to the end to know how to work him, or wind him, or govern him, proceedeth from a heart that is double and cloven, and not entire and ingenuous.

Dr. Shaw's Translation.

The honest and just limits of observation in one person upon another, extend no farther than to understand him sufficiently so as to give him no offence, or to be able to counsel him or to stand upon reasonable guard and caution with respect to a man's self: but to pry deep into another man, to learn to work, wind, or govern him, proceeds from a double heart.

haste in which the octavo edition was printed, it is unnecessary to make any observation.

With the hope to remedy these defects; to rectify the arrangement, and to supply a translation of the whole Instauration, this prospectus is most respectfully submitted to public consideration. "Men," says Lord Bacon, "have entered into a desire of "learning and knowledge, sometimes upon a natu-"ral curiosity, and inquisitive appetite: sometimes "to entertain their minds with variety and delight: "sometimes for ornament and reputation: and some-"times to enable them to victory of wit and contra-"diction; and most times for lucre and profession; "and seldom sincerely to give a true account of their "gift of reason to the benefit and use of man: as if

---

Specimens of Dr. Shaw's Variation, from Lord Bacon's arrangement and Titles.

The Essays by Dr. Shaw are without any of the dedications; are not the English of Lord Bacon, and are arranged into—1. Moral—2. Economical—and 3. Political: which arrangement is not by Lord Bacon, but by Dr. Shaw.

The treatise "De Augmentis," instead of being divided according to Lord Bacon's division into nine books, is divided into twenty-nine sections, with a title to each section.

Dr. Shaw has divided the Novum Organum into sections. Without enquiring whether the work is or is not susceptible of this division, it is sufficient to say that it is the division of Dr. Shaw, and not of Lord Bacon. It may, perhaps, be worth observing, that in a small 12mo. edition, which was published in 1818, the editor has followed the division of Dr. Shaw, without a continuation of the numbers of Lord Bacon's Aphorisms. This will appear by referring to page 13 and 39.

The following are instances of altered titles:—

Lord Bacon's.	*Dr. Shaw's.*
A Discourse on the Happy Union of England and Scotland.	A Specimen of Persian Magic.
Descriptio Globi Intellectualis.	A Specimen of Animated Astronomy.
Advice to Sir George Villiers.	The Prudent Statesman.

" there were sought in knowledge a couch where-
" upon to rest a searching and restless spirit; or a
" terras for a wandering and variable mind to walk
" up and down with a fair prospect; or a tower of
" state for a proud mind to raise itself upon; or a
" fort or commanding ground, for strife and conten-
" tion; or a shop for profit or sale; and not a rich
" store-house for the glory of the Creator, and the
" relief of man's estate. But this is that which will
" indeed dignify and exalt knowledge, if contempla-
" tion and action may be more nearly and straightly
" conjoined and united together than they have been:
" a conjunction like unto that of the two highest
" planets, Saturn, the planet of rest and contem-
" plation; and Jupiter, the planet of civil society
" and action: howbeit, I do not mean, when I speak
" of use and action, that end before mentioned of the
" applying knowledge to lucre and profession: for
" I am not ignorant how much that diverteth and
" interrupteth the prosecution and advancement of
" knowledge, like unto the golden ball thrown before
" Atalanta, which, while she goeth aside and stoopeth
" to take it up, the race is hindered:

" Declinat cursus, aurumque volubile tollit."

These volumes are not published from the hope of pecuniary gain, but, with a certainty of great expense to the editor, from a desire to complete an edition of Lord Bacon's works worthy of the age in that which we live, a desire in which the Editor trusts that the friends of literature will participate, and particularly the admirers of him who left " his name and memory to men's charitable speeches, to foreign nations and the next ages."

CONDITIONS.

I. This Work will be printed in the best manner upon superfine laid paper, demy 8vo and will be comprised, as nearly as can be ascertained, in twelve volumes, each containing about four hundred and eighty pages.

II. Each volume will be charged to Subscribers 8s. in extra boards.

III. The first volume containing the Advancement of Learning, &c. will be published on the 10th of May, 1825; and will be continued on the 10th of every alternate month, until the work be completed.

IV. To the work will be prefixed a Life of Lord Bacon, and an examination of his Writings, Portraits, Fac-similes, &c.

V. One hundred copies will be printed on the finest imperial paper, forming a magnificent library edition, price 1l. 1s. each volume: Subscribers to the large paper must engage to take the whole work.

NAMES OF SUBSCRIBERS.

His Royal Highness the Duke of Gloucester, Chancellor of the University of Cambridge, LARGE PAPER.

His Royal Highness Prince Leopold of Saxe Coburg, L. P.

His Grace the Lord Archbishop of York, L. P.

The Rt. Hon. Earl of Verulam, L. P.

The Honorable Society of Gray's-Inn, L. P.

The Right Hon. Countess of Sandwich, L. P.

W. Atkinson, Esq.
G. G. Babington, Esq.
J. Badams, Esq.
Rev. Dr. Bayly.
F. Bernasconi, Esq.
H. Bickersteth, Esq. L. P.
Mr. Bill.
Mr. W. Bird.
Mr. Boulton.
Mr. Brough.
G. Burnester, Esq.
J Butterworth, Esq.
Rev. G. Caldwell.
Sir A. Carlisle, L. P.
Rev. W. Carr, L. P.
P. Cator, Esq.
Messrs. Clarke.
Mr. Crowe.
Rev. Thomas Dale.
J. Davenport, Esq.
John Dickinson, Esq.
Mr. Philip W. Dodd.
Ralph Doughty, Esq.
W. Edwards, Esq.
Nathaniel Ellison, Esq.
— Fitchett, Esq.
J. F. Fraser, Esq.
J. Gibbons, Esq.
Henry Gunning, Esq.
C. D. Halford, Esq.
Alexander Haldane, Esq.
P. A. Hanrott, Esq. L. P.
Rev. W. Hay.
J. W. Henry, Esq.
Mrs. Hibbert.
Edward Higgs, Esq.
T. H. Holberton, Esq.
Thomas Hornby, Esq.
Rev. E. Irving.
Rob. S. Jameson, Esq. L. P.
Rev. Thomas Jameson.
P. Johnston, Esq.
Rev. J. Jones, L. P.
J. Kerrich, Esq.
Mr. Kidd.
Mr. C. Lacy
J. F. Lambert, Esq
Thomas T. Lewis, Esq. B. A.

W. Lowndes, Esq.
Mr. Philip Martineau.
I. H. Merivale, Esq.
Thomas Metcalfe, Esq.
Mrs. Moseley.
W. Mushet, Esq. 60
Thomas Osler, Esq.
T. Parker, Esq.
Mr. Patterson.
F. Pollock, Esq. Commissary of the University of Cambridge.
B. W. Procter, Esq. L. P.
Mr. Daniel Reardon.
Charles Reeves, Esq.
Mr. Thomas Richards.
Rev. Samuel Richards.
G. Rose, Esq. 70
Thomas Rundall Esq.
Douglas Skelton, Esq.
James Smith, Esq.
Mr. Snare.
Henry Southern, Esq.
H. J. Spearman, Esq.
Miss Stables.
C. F. Swanston, Esq.
W. B. Tarbutt, Esq.
J. Tindale, Esq. 80
John Turner, Esq. L. P.
Sir George Tuthill.
Mr. Ventouillac.
W. R. Vigers, Esq.
F. P. Walesby, Esq.
J. Webster, Esq.
Mr. W. Willatts.
B. G. Windus, Esq. L. P.
Rev. Archdeacon Wrangham, L. P.
W. Wright, Esq. 90
Cooksey Yates, Esq.

SUBSCRIBERS' NAMES RECEIVED.

LORD BACON'S WORKS.

VOLUME THE SECOND.

CONTAINING

THE ADVANCEMENT OF LEARNING,

AND

THE NEW ATLANTIS.

THE WORKS

OF

FRANCIS BACON,

Lord Chancellor of England.

A NEW EDITION:

BY

BASIL MONTAGU, ESQ.

VOL. II.

LONDON:
WILLIAM PICKERING.
MDCCCXXV.

Thomas White, Printer,
Johnson's Court.

TO

THE KING

THIS EDITION OF THE WORKS OF FRANCIS BACON, WHO SAYS, 'THERE BELONGETH TO KINGS FROM THEIR 'SERVANTS BOTH TRIBUTE OF DUTY AND PRESENTS OF 'AFFECTION,' IS, WITH HIS MAJESTY'S GRACIOUS PERMISSION, MOST RESPECTFULLY DEDICATED BY

HIS MAJESTY'S

FAITHFUL SUBJECT

AND OBLIGED SERVANT

BASIL MONTAGU.

Blank page retained for pagination

PREFACE.

THE Advancement of Learning was published in the year 1605. It is entitled

THE

TVVOO BOOKES OF

FRANCIS BACON,

Of the proficience and aduancement of Learning, diuine and humane.

TO THE KING.

AT LONDON,

¶ Printed for Henri Tomes, and are to be sould at his shop in Graies Inne Gate in Holborne. 1605.

It is a small thin quarto, of 119 pages, somewhat incorrectly printed, the subjects being distinguished by capitals and italics introduced into the text, with a few marginal notes in Latin. The following is an exact specimen :

HISTORY is NATVRALL, CIVILE, ECCLESIASTICALL & LITERARY, whereof the three first I allow as extant, the fourth I note as deficient. For no man hath propounded to himselfe the generall state of learning to bee described and represented from age to age, as many haue done the works of nature, & the State ciuile and Ecclesiastical; without which

the History of the world seemeth to me, to be as the *Statua* of *Polyphemus* with his eye out, that part being wanting, which doth most shew the spirit, and life of the person.

Of this work he sent a copy, with a letter, to the King; to the university of Cambridge; to Trinity college, Cambridge; to the university of Oxford; to Sir Thomas Bodley; to Lord Chancellor Egerton; to the Earl of Salisbury; to the Lord Treasurer Buckhurst: and to Mr. Matthews. From these letters, which are all in existence, the letter to the Lord Chancellor, as a favourable specimen, is annexed:

"MAY IT PLEASE YOUR LORDSHIP,

"I humbly present your lordship with a work, "wherein, as you have much commandment over the "author, so your lordship hath great interest in "the argument: For to speak without flattery, few "have like use of learning or like judgment in "learning, as I have observed in your lordship. And "again, your lordship hath been a great planter "of learning, not only in those places in the "church which have been in your own gift, but "also in your commendatory vote, no man hath "more constantly held; let it be given to the most "deserving, *detur digniori*: And therefore, both "your lordship is beholding to learning and learn-"ing beholding to you; which maketh me presume "with good assurance that your lordship will accept

" well of these my labours; the rather because your " lordship in private speech hath often begun to me " in expressing your admiration of his majesty's " learning, to whom I have dedicated this work; " and whose virtue and perfection in that kind did " chiefly move me to a work of this nature. And " so with signification of my most humble duty and " affection to your lordship, I remain."

Some short time after the publication of this work, probably about the year 1608, Sir Francis Bacon was desirous that the Advancement of Learning should be translated into Latin; and, for this " purpose, he applied to Dr. Playfer, the Margaret " professor of divinity in the university of Cam- " bridge.*

* This appears by the following letter, without any date:

" MR. DR. PLAYFER,

" A great desire will take a small occasion to hope and put in " trial that which is desired. It pleased you a good while since, to " express unto me the good liking which you conceived of my book " of the Advancement of Learning; and that more significantly, (as " it seemed to me) than out of courtesie, or civil respect. Myself, " as I then took contentment in your approbation thereof; so I " esteem and acknowledge, not onely my contentment encreased, " but my labours advanced, if I might obtain your help in that na- " ture which I desire. Wherein before I set down in plain terms " my request unto you, I will open myself, what it was which I " chiefly sought and propounded to myself in that work; that you " may perceive that which I now desire, to be persuant thereupon. " If I do not much err, (for any judgment that a man maketh of his " own doings, had need be spoken with a *Si nunquam fallit Imago*, " I have this opinion, that if I had sought mine own commendation, " it had been a much fitter course for me to have done as gardeners " used to do, by taking their seed and slips, and rearing them first " into plants, and so uttering them in pots, when they are in flower, " and in their best state. But for as much as my end was Merit of

Upon the subject of this application Archbishop Tennison says in his Baconiana—"The doc-
"tor was willing to serve so excellent a person, and
"so worthy a design; and, within a while, sent him
"a specimen of a latine translation. But men, ge-
"nerally, come short of themselves when they strive
"to out-doe themselves. They put a force upon

"the State of Learning (to my power) and not Glory; and because
"my purpose was rather to excite other mens wits than to magnifie
"mine own; I was desirous to prevent the uncertainness of mine
"own life and times, by uttering rather seeds than plants: Nay and
"further, (as the proverb is) by sowing with the basket, rather than
"with the hand: Wherefore, since I have onely taken upon me to
"ring a bell, to call other wits together, (which is the meanest office)
"it cannot but be consonant to my desire, to have that bell heard as
"far as can be. And since they are but sparks which can work but
"upon matter prepared, I have the more reason to wish, that those
"sparks may fly abroad, that they may the better find and light
"upon those minds and spirits which are apt to be kindled. And
"therefore the privateness of the language considered, wherein it is
"written, excluding so many readers; as on the other side, the ob-
"scurity of the argument in many parts of it, excludeth many others;
"I must account it a second birth of that work, if it might be trans-
"lated into Latin, without manifest loss of the sense and matter.
"For this purpose I could not represent to myself any man into
"whose hands I do more earnestly desire that work should fall than
"yourself; for by that I have heard and read, I know no man, a
"greater master in commanding words to serve matter. Neverthe-
"less, I am not ignorant of the worth of your labours, whether
"such as your place and profession imposeth, or such as your own
"virtue may upon your voluntary election take in hand. But I can
"lay before you no other perswasions than either the work itself
"may affect you with; or the honour of his majesty, to whom it is
"dedicated, or your particular inclination to myself; who, as I never
"took so much comfort in any labours of my own, so I shall never
"acknowledge myself more obliged in any thing to the labours of
"another, than in that which shall assist it. Which your labour,
"if I can by my place, profession, means, friends, travel, work,
"deed, requite unto you, I shall esteem myself so streightly bound
"thereunto, as I shall be ever most ready both to take and seek oc-
"casion of thankfulness. So leaving it nevertheless, *Salvâ Amicitiâ*,
"as reason is to your good liking. I remain."

" their natural genius, and, by straining of it, crack
" and disable it. And so, it seems, it happened to
" that worthy and elegant man. Upon this great
" occasion, he would be over-accurate ;. and he sent
" a specimen of such superfine latinity, that the Lord
" Bacon did not encourage him to labour further in
" that work, in the penning of which, he desired not
" so much neat and polite, as clear, masculine, and
" apt expression."

On the 12th of October, 1620, in a letter to the king, presenting the Novum Organum to his majesty, Lord Bacon says, " I hear my former book
" of the Advancement of Learning, is well tasted in
" the universities here, and the English colleges
" abroad : and this is the same argument sunk
" deeper."

An edition in 8vo. was published in 1629 ; and a third edition, corrected from the original edition of 1605, was published at Oxford in 1633. These are the only editions of the Advancement of Learning, which were published before the year 1636, a period of ten years after the death of Lord Bacon.

The present edition is corrected from the first edition of 1605, and with the hope of making it more acceptable to the public, an Analysis of the whole work with a table of contents is prefixed, and a copious index is annexed.

CONTENTS.

CONTENTS.

ANALYSIS OF ADVANCEMENT OF LEARNING.

- 1. THE EXCELLENCE OF AND OF DISSEMINATING LEARNING. 7.
  - 1. OBJECTIONS TO LEARNING. 7.
    - 1. By divines. 7.
    - 2. By politicians. 14.
    - 3. From faults of learned men. 23.
  - 2. ADVANTAGES OF LEARNING. 53.
    - 1. Divine proofs. 53.
    - 2. Human proofs. 60.
- 2. WHAT HAS BEEN DONE FOR LEARNING, AND WHAT LEFT UNDONE.
  - 1. Preliminary considerations. 90.
    - 1. Universities. 91.
    - 2. Libraries. 92.
    - 3. The persons of the learned. 92.
  - 2. Division of learning. 100.
    - 1. HISTORY, relating to the memory.
      - 1. Different histories. 101.
        - 1. Natural. 102.
          - 1. History of creatures. 102.
          - 2. History of marvels. 103.
          - 3. History of arts. 104.
        - 2. Civil. 106.
          - 1. Memorials. 106.
          - 2. Antiquities. 107.
          - 3. Perfect History. 107..
            - 1. Simple. 108.
              - 1. Biography.
              - 2. Chronicles.
              - 3. Relations.
            - 2. Mixed. 115.
        - 3. Ecclesiastical. 116.
          - 1. History of the church. 116.
          - 2. History of prophecy. 117.
          - 3. History of providence. 117.
      - 2. Appendices. 118.
        - 1. Memorials.
        - 2. Epistles.
        - 3. Apothegms.
    - 2. POETRY, relating to the imagination. 119.
      - 1. Narrative.
      - 2. Representative.
      - 3. Parabolical.
    - 3. PHILOSOPHY, relating to the understanding.
      - 1. Revealed. 124. 299.
      - 2. From Reason. 124.
        - 1. General philosophy. 124.
        - 2. Particular philosophy....
          - 1. NATURAL RELIGION. 128.
          - 2. NATURAL PHILOSOPHY. 131.
            - 1. Speculative. 132.
              - 1. Physics. 135.
              - 2. Metaphysics. 136.
                - Mathematics. 143.
            - 2. Operative.
              - 1. Division.
                - 1. Experimental. 154.
                - 2. Philosophical. 145.
                - 3. Magical. 147.
              - 2. Appendices.
                - 1. Calendar of inventions. 148.
                - 2. Calendar of discoveries. 148.
          - 3. HUMAN PHILOSOPHY, OR KNOWLEDGE OF MAN. 153.(a)

(a) HUMAN PHILOSOPHY; OR, KNOWLEDGE OF MAN.

- 1. MAN AS AN INDIVIDUAL. 153.
  - 1. The UNDIVIDED state of man.
    - 1. Discovery.
      - 1. PHYSIOGNOMY. 155.
      - 2. EXPOSITION OF DREAMS. 155.
    - 2. Impression.
      - 1. ACTION OF BODY ON MIND. 155.
      - 2. ACTION OF MIND ON BODY. 157.
  - 2. The DIVIDED state of man.
    - 1. The Body.
      - 1. HEALTH. 158.
      - 2. BEAUTY. 168.
      - 3. STRENGTH. 168.
      - 4. PLEASURE. 169.
    - 2. The MIND. 170.
      - 1. Its origin.
        - 1. DIVINATION. 171.
        - 2. FASCINATION. 172.
      - 2. Its faculties.
        - 1. The UNDERSTANDING.
          - 1. INVENTION. 176.
            - 1. Of arts and sciences.
              - 1. LITERATE EXPERIENCE. 182.
              - 2. NOVUM ORGANUM.
            - 2. Of argument. 183.
          - 2. JUDGMENT. 186.
          - 3. MEMORY. 194.
            - 1. Helps of memory. 194.
            - 2. Nature of memory. 195.
          - 4. TRADITION. 196.
            - 1. Grammar. 198.
              - 1. Literary.
              - 2. Philosophical.
            - 2. Rhetoric. 208.
            - 3. Appendices.
              - 1. The ART CRITICAL.
              - 2. The ART OF INSTRUCTION.
        - 2. The WILL. 219.
          - 1. The IMAGE OF GOOD. 221.
          - 2. The CULTURE OF THE MIND. 239.
- 2. MAN IN SOCIETY. 256.
  - 1. Of CONVERSATION. 257.
  - 2. Of NEGOCIATION. 259.
  - 3. Of GOVERNMENT. 293.

ANALYSIS OF LORD BACON'S ADVANCEMENT OF LEARNING.

"MUNDUS INTELLECTUALIS."

THE EXCELLENCE OF LEARNING,

AND

THE MERIT OF DISSEMINATING IT.

OBJECTIONS TO LEARNING.

To clear the way, and, as it were, to make silence, to have the true testimonies concerning the dignity of learning to be better heard, without the interruption of tacit objections.

OBJECTIONS WHICH DIVINES MAKE TO LEARNING.

We must not so place our felicity in knowledge as to forget our mortality: but to give ourselves repose and contentment, and not presume by the contemplation of nature to attain to the mysteries of God.

4. St. Paul warns us not to be spoiled through vain philosophy 12

The sense of man resembles the sun, which opens and reveals the terrestrial globe but conceals the stars and celestial globe: hence men fall who seek to fly up to the secrets of the Deity by the waxen wings of the senses.

5. Learned men are inclined to be heretics, and learned men to atheism 12

It is an assured truth and a conclusion of experience, that a little or superficial knowledge of philosophy may incline the mind of man to atheism, but a further proceeding therein doth bring the mind back again to religion.

Let no man, upon a weak conceit of sobriety, or an ill-applied moderation, think or maintain, that a man can earch too far, or be too well studied in the book of God's word, or in the book of God's works; Divinity or Philosophy.

OBJECTIONS WHICH POLITITIANS MAKE TO LEARNING.

1. Learning softens men's minds and makes them unfit for arms 14

Alexander the Great and Julius Cæsar the dictator; whereof the one was Aristotle's scholar in philosophy, and the other was Cicero's rival in eloquence: or if any man had rather call for scholars that were great generals, than generals that were great scholars, let him take Epaminondas the Theban, or Xenophon the Athenian.

2. Learning makes men unfit for civil affairs . . 16

It is accounted an error to commit a natural body to empiric physicians, which commonly have a few pleasing receipts, whereupon they are confident and adventurous, but know neither the causes of diseases, nor the complexions of patients, nor peril of accidents, nor the true method of

cures; we see it is a like error to rely upon advocates or lawyers, which are only men of practice, and not grounded in their books, who are many times easily surprised, when matter falleth out besides their experience to the prejudice of the causes they handle: so by like reason, it cannot be but a matter of doubtful consequence, if states be managed by empiric statesmen, not well mingled with men grounded in learning.

1. It makes them irresolute by variety of reading . 14

It teacheth them when and upon what ground to resolve, and to carry things in suspense till they resolve.

3. It makes them too peremtory by strictness of rules 19

It teacheth them when and upon what ground to resolve; yea, and how to carry things in suspense without prejudice, till they resolve; if it make men positive and regular, it teacheth them what things are in their nature demonstrative, and what are conjectural; and as well the use of distinctions and exceptions, as the latitude of principles and rules.

4. It makes them immoderate by greatness of example 14

It teacheth men the force of circumstances, the errors of comparisons, and all the cautions of application.

It makes them incompatible by dissimilitude of examples 19

Let a man look into the errors of Clement the seventh, so livelily described by Guicciardine, who served under him, or into the errors of Cicero, painted out by his own pencil in his epistles to Atticus, and he will fly apace from being irresolute. Let him look into the errors of Phocion, and he will beware how he be obstinate or inflexible. Let him but read the fable of Ixion, and it will hold him from being vapourous or imaginative. Let him look into the errors of Cato the second, and he will never be one of the Antipodes, to tread opposite to the present world

6. It disposes men to leisure and retirement.

It were strange if that, which accustometh the mind to a perpetual motion and agitation, should induce slothful-

ness: of all men they are the most indefatigable, if it be towards any business that can detain their minds

The most active or busy man that hath been or can be, hath, no question, many vacant times of leisure, while he expecteth the tides and returns of business. And then the question is, but, how those spaces and times of leisure shall be filled and spent; whether in pleasures or in studies; as was well answered by Demosthenes, to his adversary Æschines, that was a man given to pleasure, and told him, that his orations did smell of the lamp: "Indeed," said Demosthenes, "there is a great difference between "the things that you and I do by lamp-light."

1. It relaxes discipline by making men more ready to argue than to obey 14

To say that a blind custom of obedience should be a surer obligation than duty taught and understood, is to affirm, that a blind man may tread surer by a guide than a seeing man can by a light. And it is without all controversy, that learning doth make the minds of men gentle, generous, maniable and pliant to government; whereas ignorance makes them churlish, thwarting, and mutinous.

OBJECTIONS TO LEARNING FROM THE ERRORS OF LEARNED MEN.

1. From their fortunes.
2. From their manners.
3. From the nature of their studies.

FIRST.

OBJECTIONS TO LEARNING FROM THE FORTUNES OF LEARNED MEN.

1. Learned men are poor and live in obscurity.

Learned men forgotten in states, and not living in the eyes of men, are like the images of Cassius and Brutus in the funeral of Junia: of which not being represented, as

many others were, Tacitus saith, "Eo ipso præfulgebant, quod non visebantur."

2. Learned men are engaged in mean employments as the education of youth.

We see men are more curious what they put into a new vessel, than into a vessel seasoned; and what mould they lay about a young plant, than about a plant corroborate: so as the weakest terms and times of all things use to have the best applications and helps.

SECONDLY.

OBJECTIONS TO LEARNING FROM THE MANNERS OF LEARNED MEN.

1. Learned men endeavour to impose the laws of ancient severity upon dissolute times.

Solon, when he was asked whether he had given his citizens the best laws, answered wisely, "Yea, of such as they "would receive;" and Plato, finding that his own heart could not agree with the corrupt manners of his country, refused to bear place or office; saying, "That a man's "country was to be used as his parents were, that is, "with humble persuasions, and not with contestations."

2. Learned men prefer the public good to their own interest.

The corrupter sort of mere politicians, that have not their thoughts established by learning in the love and apprehension of duty, nor ever look abroad into universality, do refer all things to themselves, and thrust themselves into the centre of the world, as if all lines should meet in them and their fortunes; never caring, in all tempests, what becomes of the ship of state, so they may save themselves in the cockboat of their own fortune.

3. Learned men fail sometimes in applying themselves to individuals.

The reasons of this:

1. The largeness of their minds, which cannot descend to particulars.

He that cannot contract the sight of his mind, as well as disperse and dilate it, wanteth a great faculty.

2. Learned men reject from choice and judgment.

The honest and just bounds of observation, by one person upon another, extend no farther but to understand him sufficiently, whereby not to give him offence, or whereby to be able to give him faithful counsel, or whereby to stand upon reasonable guard and caution in respect of a man's self; but to be speculative into another man, to the end to know how to work him or wind him or govern him, proceedeth from a heart that is double and cloven, and not entire and ingenuous.

4. Learned men are negligent in their behaviour.

Learned men should not stoop to persons, although they ought to submit to occasions. (a)

THIRDLY.

OBJECTIONS TO LEARNING FROM THE NATURE OF THE STUDIES OF LEARNED MEN.

DISTEMPERS OF LEARNING.

1. Phantastical learning.
2. Contentious learning.
3. Delicate learning.

Vain imaginations: vain altercations: vain affectations.

1. It is the study of words, and not of matter.

How is it possible but this should have an operation to discredit learning, even with vulgar capacities, when they see learned men's works like the first letter of a patent or limned book; which though it hath large flourishes, yet it is but a letter? It seems to me that Pygmalion's frenzy is a good emblem or portraiture of this vanity for words are but the images of matter; and except they have life of reason and invention, to fall in love with them is all one as to fall in love with a picture.

(a) See note (A) at the end.

(b) See note (B) at the end.

4. Unprofitable curiosity is of two sorts: . . . 39
   1. Fruitless speculation.
   2. Erroneous modes of investigation.

Were it not better for a man in a fair room to set up one great light, or branching candlestick of lights, than to go about with a small watch candle into every corner?

The generalities of the schoolmen are for a while good and proportionable; but then, when you descend into their distinctions and decisions, instead of a fruitful womb, for the use and benefit of man's life, they end in monstrous altercations and barking questions.

5. It is to be lamented that the learning of the schoolmen was so confined 41

If those schoolmen, to their great thirst of truth and unwearied travail of wit, had joined variety and universality of reading and contemplation, they had proved excellent lights, to the great advancement of all learning and knowledge; but as they are, they are great undertakers indeed, and fierce with dark keeping.

Phantastical Learning.

1. It is falsehood, and is the foulest of all the distempers of learning.
2. Different sorts, and their connection.
   1. Imposture.
   2. Credulity.
      1. In matters of fact.
         1. In ecclesiastical history.
         2. In natural history.
      2. In arts and sciences.
         1. In arts and sciences.

Surely to alchemy this right is due, that it may be compared to the husbandman whereof Æsop makes the fable; that, when he died, told his sons, that he had left unto them gold buried under ground in his vineyard; and they digged over all the ground, and gold they found none; but by reason of their stirring and digging the mould about the roots of

their vines, they had a great vintage the year following: so assuredly the search and stir to make gold hath brought to light a great number of good and fruitful inventions and experiments, as well for the disclosing of nature, as for the use of man's life.

2. In authors.

Authors should be as consuls to advise, not as dictators to command.

Let great authors have their due, as time, which is the author of authors, be not deprived of his due, which is, further and further to discover truth.

PECCANT HUMOURS OF LEARNING.

(c) See note (C) at the end. (d) See note (D) at the end.

(e) See note (E) at the end. (f) See note (F) at the end.
(g) See note (G) at the end. (h) See note (H) at the end.

or to make a hymn to the muses; (though I am of opinion that it is long since their rites were duly celebrated:) but my intent is, without varnish or amplification, justly to weigh the dignity of knowledge in the balance with other things, to take the true value thereof by testimonies and arguments divine and human.

Different proofs of the advantages of knowledge.

1. *Divine proofs* 53
   1. Before the creation.*
   2. After the creation.
      1. Before the flood.
      2. After the flood.
         1. Before christianity 57

In the law of the leprosy, it is said, "If the white-"ness have overspread the flesh, the patient may pass "abroad for clean; but if there be any whole flesh re-"maining, he is to be shut up for unclean;" one of them noteth a principle of nature, that putrefaction is more con-

---

* The Lord possessed me in the beginning of his way, before his works of old.

I was set up from everlasting, from the beginning, or ever the earth was.

When there were no depths I was brought forth; when there were no fountains abounding with water.

Before the mountains were settled, before the hills was I brought forth.

While as yet he had not made the earth, nor the fields, nor the highest part of the dust of the world.

When he prepared the heavens I was there: when he set a compass upon the face of the depth:

When he established the clouds above: when he strengthened the fountains of the deep:

When he gave to the sea his decree, that the waters should not pass his commandment: when he appointed the foundations of the earth:

Then I was by him, as one brought up with him: and I was daily his delight, rejoicing always before him.

PROVERBS, chap. viii.

tagious before maturity than after: and another noteth a position of moral philosophy, that men abandoned to vice do not so much corrupt manners, as those that are half good and half evil.

2. After christianity.

Founders and uniters of states and cities, lawgivers, extirpers of tyrants, fathers of the people, and other eminent persons in civil merit, were honoured but with the titles of worthies or demi-gods; such as were Hercules, Theseus, Minos, Romulus, and the like: on the other side, such as were inventors and authors of new arts, endowments, and commodities towards man's life, were ever consecrated amongst the gods themselves: as were Ceres, Bacchus, Mercurius, Apollo, and others: and justly; for the merit of the former is confined within the circle of an age or a nation and is like fruitful showers, which though they be profitable and good, yet serve but for that season, and for a latitude of ground where they fall; but the other is indeed like the benefits of heaven, which are permanent and universal. The former, again, is mixed with strife and perturbation; but the latter hath the true character of divine presence, coming "in aura leni," without noise or agitation.(i)

In Orpheus's theatre, all beasts and birds assembled; and forgetting their several appetites, some of prey, some of game, some of quarrel, stood all sociably together listening to the airs and accords of the harp; the sound whereof no sooner ceased, or was drowned by some louder noise, but every beast returned to his own nature: wherein is aptly described the nature and condition of men, who are full of savage and unreclaimed desires of profit, of lust, of revenge; which as long

(i) See note (I) at the end.

as they give ear to precepts, to laws, to religon, sweetly touched with eloquence and persuasion of books, of sermons, of harangues, so long is society and peace maintained; but if these instruments be silent, or sedition and tumult make them not audible, all things dissolve into anarchy and confusion.

3. Proof of this position by shewing the conjunction between learning in the prince and happiness in the people. . 64

But for a tablet, or picture of smaller volume, (not presuming to speak of your majesty that liveth,) in my judgment the most excellent is that of queen Elizabeth, your immediate predecessor in this part of Britain; a princess that, if Plutarch were now alive to write lives by parallels, would trouble him, I think, to find for her a parallel amongst women. This lady was endued with learning in her sex singular, and rare even amongst masculine princes; whether we speak of learning, language, or of science, modern or ancient, divinity or humanity: and unto the very last year of her life she was accustomed to appoint set hours for reading, scarcely any young student in an university more daily, or more duly. As for her government, I assure myself, I shall not exceed, if I do affirm that this part of the island never had forty-five years of better times; and yet not through the calmness of the season, but through the wisdom of her regimen. For if there be considered of the one side, the truth of religion established, the constant peace and security, the good administration of justice, the temperate use of the prerogative, not slackened, nor much strained, the flourishing state of learning, sortable to so excellent a patroness, the convenient estate of wealth and means, both of crown and subject, the habit of obedience, and the moderation of discontents; and there be considered, on the other side, the differences of religion, the troubles of neighbour countries, the ambition of Spain, and opposition of Rome, and then, that she was solitary and of herself: these things, I say, considered, as I could not have chosen an instance so recent and so proper, so, I suppose, I could not have chosen one more remarkable or eminent to the pur-

pose now in hand, which is concerning the conjunction of learning in the prince with felicity in the people.(k) 69

3. There is a concurrence between learning and military virtue 78

When Cæsar, after war declared, did possess himself of the city of Rome; at which time entering into the inner treasury to take the money there accumulated, Metellus being tribune, forbade him: whereto Cæsar said, "That "if he did not desist, he would lay him dead in the place." And presently taking himself up, he added, "Adolescens, "durius est mihi hoc dicere quàm facere." Young man, it is harder for me to speak than to do it. A speech compounded of the greatest terror and greatest clemency that could proceed out of the mouth of man.

4. Learning improves private virtues 80

1. It takes away the barbarism of men's minds.

"Scilicet ingenuas didicisse fideliter artes,
"Emollit mores, nec sinit esse feros."

2. It takes away levity, temerity, and insolency.

3. It takes away vain admiration 81

If a man meditate much upon the universal frame of nature, the earth with men upon it, the divineness of souls excepted, will not seem much other than an ant-hill, where as some ants carry corn, and some carry their young, and some go empty and all to-and-fro a little heap of dust.

4. It mitigates the fear of death or adverse fortune.

Virgil did excellently and profoundly couple the knowledge of causes and the conquest of all fears together, as "concomitantia."

"Felix, qui potuit rerum cognoscere causas
"Quique metus omnes, et inexorabile fatum
"Subjecit pedibus, strepitumque Acherontis avari."

5. It disposes the mind not to be fixed in its defects 82

The unlearned man knows not what it is to descend into himself, or to call himself to account; nor the pleasure of that "sua vissima vita, indies sentire se fieri meli-"orem.."

(k) This beautiful passage is omitted in the Treatise De Augmentis

Certain it is that "veritas" and "bonitas" differ but as the seal and the print: for truth prints goodness; and they be the clouds of error which descend in the storms of passions and perturbations.

5. Learning is power. (l)

6. Learning advances fortune 84

7. The pleasure of knowledge is the greatest of pleasures 85

We see in all other pleasures there is satiety, and after they be used, their verdure departeth; which sheweth well they be but deceits of pleasure, and not pleasures; and that it was the novelty which pleased, and not the quality: and therefore we see that voluptuous men turn friars, and ambitious princes turn melancholy. But of knowledge there is no satiety, but satisfaction and appetite are perpetually interchangeable.

"It is a view of delight, to stand or walk upon the "shore side, and to see a ship tossed with tempest upon "the sea; or to be in a fortified tower, and to see two "battles join upon a plain; but it is a pleasure incompar-"able, for the mind of man to be settled, landed, and for-"tified in the certainty of truth; and from thence to "descry and behold the errors, perturbations, labours, and "wanderings up and down of other men."

8. Learning insures immortality 87

If the invention of the ship was thought so noble, which carrieth riches and commodities from place to place, and consociateth the most remote regions in participation of their fruits, how much more are letters to be magnified, which, as ships, pass through the vast seas of time, and make ages so distant to participate of the wisdom, illuminations, and inventions, the one of the other?

Nevertheless, I do not pretend, and I know it will be impossible for me, by any pleading of mine, to reverse the judgment, either of Æsop's cock, that preferred the barley-corn before the gem; or of Midas, that being chosen judge

(l) See note (L) at the end.

between Apollo president of the Muses, and Pan god of the flocks, judged for plenty; or of Paris, that judged for beauty aad love against wisdom and power; nor of Agrippina, "occidat matrem, modo imperet," that preferred empire with conditions never so detestable; or of Ulysses, "qui vetulam prætulit immortalitati." being a figure of those which prefer custom, and habit before all excellency; or of a number of the like popular judgments. For these things continue as they have been: but so will that also continue whereupon learning hath ever relied, and which faileth not: "justificata est sapientia a filiis suis."

BOOK II.

WHAT HAS BEEN DONE

FOR

THE ADVANCEMENT OF LEARNING,

AND

WHAT IS OMITTED.

I. THE PLACES OF LEARNING.

As water, whether it be the dew of heaven, or the springs of the earth, doth scatter and lose itself in the

ground, except it be collected into some receptacle, where it may by union comfort and sustain itself, (and for that cause the industry of man hath made and framed spring-heads, conduits, cisterns, and pools, which men have accustomed likewise to beautify and adorn with accomplishments of magnificence and state, as well as of use and necessity) so this excellent liquor of knowledge, whether it descend from divine inspiration, or spring from human sense, would soon perish and vanish to oblivion, if it were not preserved in books, traditions, conferences, and places appointed, as universities, colleges, and schools, for the receipt and comforting of the same.

1. Works relating to places of learning.
    1. Foundations and buildings.
    2. Endowments with revenues.
    3. Endowments with franchises.
    4. Institutions for government.

II. THE BOOKS OF LEARNING 92

1. Libraries.

    They are as the shrines where all the relics of the ancient saints, full of true virtue, and that without delusion or imposture, are preserved and reposed.

2. New editions of authors.

III. THE PERSONS OF THE LEARNED 108

1. Learned men should be countenanced.
2. There should be rewards.
    1. For readers in sciences extant.
    2. For inventors.
3. Defects of universities.

First defect. Colleges are all dedicated to professions 93

If men judge that learning should be referred to action, they judge well; but in this they fall into the error described in the ancient fable, in which the other parts of the body did suppose the stomach had been idle, because it neither performed the office of motion, as the limbs do, nor of sense,

as the head doth; but yet, notwithstanding, it is the stomach that digesteth and distributeth to all the rest: so if any man think philosophy and universality to be idle studies, he doth not consider that all professions are from thence served and supplied. And this I take to be a great cause that hath hindered the progression of learning, because these fundamental knowledges have been studied but in passage. For if you will have a tree bear more fruit than it hath used to do, it is not any thing you can do to the boughs, but it is the stirring of the earth, and putting new mould about the roots, that must work it.

It is injurious to government that there is not any collegiate education for statesmen . . . 110

Second defect. The salaries of lecturers are too small 94

If you will have sciences flourish, you must observe David's military law, which was, "That those which staid "with the carriage should have equal part with those which "were in the action.

Third defect. There are not sufficient funds for providing models, instruments, experiments, &c. (m) . 95

Fourth defect. There is a neglect in the governors of consultation, and, in superiors of visitation as to the propriety of continuing or amending the established courses of study 95

1. Scholars study logic and rhetoric (n) . . 96

For minds empty and unfraught with matter, and which have not gathered that which Cicero calleth "Sylva" and "supellex," stuff and variety, to begin with those arts, (as if one should learn to weigh, or to measure, or to paint the wind), doth work but this effect, that the wisdom of those arts, which is great and universal, is almost made contemptible, and is degenerate into childish sophistry and ridiculous affectation. (n)

(m) See note (M) at the end.

(n) See note (N) at the end.

* The arrangement of this part is altered in the Treatise *De Augmentis*.

History of Creatures.

1. It is the history of nature in course.
2. It is extant and in perfection.

History of Marvails.

1. It is the history of nature wandering.
2. It is deficient.
3. Its uses.
   1. To correct the partiality of axioms.
   2. To discover the wonders of art.

   It is, as it were, hounding Nature in her wanderings to be able to lead her afterwards to the same place again.
4. Different marvails.

History of Arts(o) . . . 104

1. It is in general deficient.
2. It is considered not elevating to enquire into matters mechanical 105

   The truth is, they be not the highest instances that give the securest information; as may be well expressed in the tale so common of the philosopher, that while he gazed upwards to the stars fell into the water; for if he had looked down he might have seen the stars in the water, but looking aloft he could not see the water in the stars. So it cometh often to pass, that mean and small things discover great, better than great can discover the small.

   Aristotle noteth well, "that the nature of every thing is best seen in its smallest portions." And for that cause he inquireth the nature of a commonwealth, first in a family, and the simple conjugations of man and wife, parent and child, master and servant, which are in every cottage.

   The turning of iron touched with the loadstone towards the north, was found out in needles of iron, not in bars of iron.
3. The use of mechanical history is great 106

   As a man's disposition is never well known till he be

(o) See note (O) at the end.

crossed, nor Proteus ever changed shapes till he was straitened and held fast; so the passages and variations of nature cannot appear so fully in the liberty of nature, as in the trials and vexations of art.

Division.

1. Memorials.
2. Perfect Histories.
3. Antiquities.

Of pictures or images, we see, some are unfinished, some are perfect, and some are defaced.

Memorials.

1. Mémorials are preparations for history.
2. Different sorts; commentaries, registers.
3. They are naturally imperfect.

Antiquities.

1. They are the remnant of history.

They are as planks saved from the deluge of time.

2. Epitomes should be abolished.

They are as the moths af history that have fretted and corroded the sound bodies of many exellent histories.

Perfect History.

1. Chronicles.
2. Biography.
3. Relations.

Biography.

1. It is the most useful of all history.
2. It is to be lamented that biography is not more frequent 112

One of the poets feigned that at the end of the thread or web of every man's life there was a little medal containing the person's name, and that Time waited upon the shears; and as soon as the thread was cut, caught the medals, and

carried them to the river of Lethe; and about the bank there were many birds flying up and down, that would get the medals and carry them in their beak a little while, and then let them fall into the river; only there were a few swans, which if they got a name, would carry it to a temple where it was consecrated.

3. Impropriety of disregarding posthumous fame . 112

Chronicles.

1. Chronicles excel for celebrity. 127
2. The heathen antiquities are deficient 129
3. Bacon recommends a history of England from the union of the roses to the union of the kingdoms . 130

Relations.

1. They excel in verity and sincerity 108
2. It is to be lamented that there is not more diligence in relations 113

The collection of such relations might be as a nursery garden, whereby to plant a fair and stately garden, when time should serve.

3. Annals and journals.

Mixed History 115

1. A mixture of selected pieces of history.
2. Cosmography

Ecclesiastical History . . . 116

1. It has a common division analogous to the division of common civil history.
   1. Ecclesiastical chronicles.
   2. Lives of the fathers.
   3. Relations of synods.
2. Proper division 117
   1. History of the church.
   2. History of prophecy.
   3. History of providence.

History of the Church.

1. It describes the state of the church in persecution, in remove, and in peace.

   The ark in the deluge: the ark in the wilderness: and the ark in the temple.

2. It is more wanting in sincerity than in quantity.

History of Prophecy.

1. It is the history of the prophecy and of the accomplishment.
2. Every prophecy should be sorted with the event.
3. It is deficient.

History of Providence.

1. It is the history of the correspondence between God's revealed will and his secret will.
2. It is not deficient.

Appendices to History.

1. Different sorts.
   1. Orations.
   2. Epistles.
   3. Apothegms.
2. Relative advantages of orations, epistles, and apothegms.
3. They are not deficient.

1. Division.
   1. As it refers to *words*.
   2. As it refers to *matter*.
2. Poetry as it refers to words is but a character of style, and is not pertinent to this place.
3. Poetry as it refers to the *matter*.
   1. It is fiction, and relates to the imagination.
   2. It is in *words* restrained: in *matter* unlicensed.

   The imagination not being tied to the laws of matter, may at pleasure join that which nature hath severed, and sever that which nature hath joined; and so make unlawful matches and divorces of things.

Pictoribus atque poetis,
Quidlibet audendi, semper fuit æqua potestas.

4. Its use is to satisfy the mind in these points where nature does not satisfy it.

*It was ever thought to have some participation of divineness, because it doth raise and erect the mind, by submitting the shews of things to the desires of the mind; whereas reason doth buckle and bow the mind into the nature of things.**

Poesy joined with music hath had access and estimation in rude times and barbarous regions, where other learning stood excluded.

5. Division of poesy.
   1. Common—the same as in history.
   2. Proper division.
      1. Narrative or heroical.
      2. Representative or dramatical.
      3. Allusive or parabolical.

Narrative Poesy.

Parabolical Poesy.

1. It was never common in ancient times.
2. Its uses.
   1. To elucidate truths.
   2. To concert truths.†
3. Of the interpretation of mysteries, parabolical poesy.

In poesy there is no difference for being as a plant that cometh of the lust of the earth, without a formal seed, it hath sprung up and spread abroad more than any other kind: but to ascribe unto it that which is due, for the expressing of affections, passions, corruptions, and customs, we are beholding to poets more than to the philosopher's

---

* Sir Philip Sidney says, poesy, the sweet food of sweetly uttered knowledge, lifts the mind from the dungeon of the body to the enjoying its own divine essence.

† This is much expanded in the treatise De Augmentis.

works; and for wit and eloquence, not much less than to orators' harangues. But it is not good to stay too long in the theatre. Let us now pass on to the judicial place or palace of the mind, which we are to approach and view with more reverence and attention.

Philosophy 124

1. Division.
   1. From the light of nature.
      1. *Divine*, or natural religion.
      2. *Natural*, the knowledge of nature.
      3. *Human*, the knowledge of man.
   2. From divine inspiration or revealed religion.

PRIMITIVE OR GENERAL PHILOSOPHY.

It is a receptacle for all such profitable observations and axioms as fall not within the compass of any of the special parts of philosophy or sciences, but are more common and of a higher stage.

Is not the precept of a musician, to fall from a discord or harsh accord upon a concord, or sweet accord alike true in affection? Is not the trope of music, to avoid or slide from the close or cadence, common with the trope of rhetoric of deceiving expectation? Is not the delight of the quavering upon a stop in music the same with the playing of light upon the water?

"Splendet tremulo sub lumine pontus."

Because the distributions and partitions of knowledge are not like several lines that meet in one angle, and so touch but in a point; but are like branches of a tree, that meet in a stem, which hath a dimension and quantity of entireness and continuance, before it come to discontinue and break itself into arms and boughs; therefore it is good, before we enter into the former distribution, to erect and constitute one universal science, by the name of "Philosophia Prima,"

primitive or summary philosophy, as the main and common way, before we come where the ways part and divide themselves.

This science is as a common parent, like unto Berecynthia, which had so much heavenly issue,

"Omnes cæliclas, omnes super alta tenentes."

NATURAL RELIGION . . 152

1. It is

That knowledge or rudiment of knowledge concerning God, which may be obtained by the contemplation of his creatures.

2. The proper limits of this knowledge are that it sufficeth to convince atheism 128

3. It is not safe from contemplations of nature to judge upon questions of faith 129

"Men and gods were not able to draw Jupiter down to the earth; but contrariwise, Jupiter was able to draw them up to heaven."

4. This is not deficient, but not restrained within proper limits.

5. Of angels.

It is no more unlawful to inquire the nature of evil spirits, than to inquire the force of poisons in nature, or the nature of sin and vice in morality.

6. Enquiries respecting angels are not deficient.

NATURAL PHILOSOPHY.

1. Division.

1. Speculative *or inquisition of causes.*

2. Operative *or production of effects* . . . 131

If then it be true that Democritus said, "That the truth of nature lieth hid in certain deep mines and caves:" and if it be true likewise that the alchemists do so much inculcate, that Vulcan is a second nature, and imitateth that dexterously and compendiously, which nature worketh by ambages and length of time, it were good to divide natural philosophy

---

* In the Treatise De Augmentis there is, in this place, a considerable addition

2. Division.
    1. Experimental.
    2. Philosophical.
    3. Magical.
3. Of the analogy between this division and the division of speculative natural philosophy 172
4. The knowledge of physical causes will lead to new particulars.

Magical.

1. Natural magic is defective 146
2. Appendices hereto are,
    1st. A calendar of inventions.
    2d. A calendar of discoveries which may lead to other inventions 148

The invention of the mariner's needle, which giveth the direction, is of no less benefit for navigation than the invention of the sails, which give the motion.

3. Conclusion of natural philosophy, speculative and operative.

The voice of nature will consent, whether the voice of man do or not. And as Alexander Borgia was wont to say of the expedition of the French for Naples, that they came with chalk in their hands to mark up their lodgings, and not with weapons to fight: so I like better that entry of truth which cometh peaceably, with chalk to mark up those minds which are capable to lodge and harbour it, than that which cometh with pugnacity and contention.

Of Doubts 149

1. Division of doubts.
    1. Particular.
    2. Total.
2. Particular doubts.
    1. Uses of registering doubts.
    2. Of the evil of continuing doubts.

That use of wit and knowledge is to be allowed, which

laboureth to make doubtful things certain, and not those which labour to make certain things doubtful.

Of a Calendar of Popular Errors.

Thus have we now dwelt with two of the three beams of man's knowledge; that is "Radius directus," which is referred to nature, "Radius refractus," which is referred to God; and cannot report truly because of the inequality of the medium: there resteth "Radius reflexus," whereby man beholdeth and contemplateth himself.

(o) See note (O) at the end.

2. The art of ascertaining the state of the body from the appearance of the mind, as *exposition of dreams*, &c.

Physiognomy . . . 155

1. The discovery of the mind from the appearance of the body.
2. Aristotle has laboured physiognomy as far as relates to the countenance at rest; but not when in motion.
3. The lineaments of the body disclose the general inclinations of the mind: the motions its present dispositions.

A number of subtle persons, whose eyes do dwell upon the faces and fashions of men, do well know the advantage of this observation, as being most part of their ability.

Impression.

1. It is the science of the relative action of the body and mind upon each other.
2. Of the action of the body on the mind.
   1. This has been enquired as a part of medicine.
   2. The doctrine that the body acts upon the mind does not derogate from the soul's dignity.

   The infant in the mother's womb is compatible with the mother and yet separable; and the most absolute monarch is sometimes led by his servants and yet without subjection.
3. The action of the mind on the body.
   1. Physicians have ever considered "accidentia animi," as of great importance.
   2. The power of imagination as well to help as to hurt is a subject neglected, but deserving enquiry.

   It cannot be concluded that because there be pestilent airs, able suddenly to kill a man in health, therefore there should be sovereign airs, able suddenly to cure a man in sickness.
   3. There should be an enquiry of the seats and domiciles which the several faculties of the mind occupy in the body and the organs thereof.*

---

* See the very words of Bacon in page 157, and query as to its application to the subject of craniology.

The divided State of Man 158

Division.

1. The body.
2. The mind.

OF THE BODY.

Division.

1. Health.
2. Beauty.
3. Strength.
4. Pleasure.

Health.

1. Man's body is of all things most susceptible of remedy, but this remedy most susceptible of error.
2. No body is so variously compounded as the body of man.
   1. The variety in the composition of man's body is the cause of its being frequently distempered.

      The poets did well to conjoin music and medicine in Apollo: because the office of medicine is but to tune this curious harp of man's body and to reduce it to harmony.

   2. The variety in the composition of man's body has made the art of medicine more conjectural; and so given scope to error and imposture.

      The lawyer is judged by the virtue of his pleading, and not by the issue of the cause. The master of the ship is judged by the directing his course aright, and not by the fortune of the voyage. But the physician, and perhaps the politician, hath no particular acts demonstrative of his ability, but is judged most by the event.

3. The quack is often prized before the regular physician.
4. Physicians often prefer other pursuits to their own professions.

   You shall have of them antiquities, poets, humanists, statesmen, merchants, divines, and in every of these better seen than in their profession; and no doubt upon this ground, that they find that mediocrity and excellency in their art maketh no difference in profit or reputation to-

wards their fortune; for the weakness of patients, and sweetness of life, and nature of hope, maketh men depend upon physicians with all their defects.

5. Diseases may be subdued.

If we will excite and awake our observation, we shall see in familiar instances what a predominant faculty the subtilty of spirit hath over the variety of matter or form.

6. Medicine has been more laboured than advanced.

7. Deficiences of medicine.

1. Want of medical reports.
2. Defective anatomies.
3. Hasty conclusions that diseases are incurable.

Sylla and the triumvirs never proscribed so many men to die, as they do by their ignorant edicts.

4. A neglect to mitigate the pains of death.
5. A neglect of acknowledged medicines . 166
6. A neglect of artificial mineral baths.
7. The prescripts in use are too compendious to attain their end.

It were a strange speech, which, spoken, or spoken oft, should reclaim a man from a vice to which he were by nature subject: it is order, pursuit, sequence, and interchange of application, which is mighty in nature.

Beauty 168

1. Cleanliness was ever esteemed to proceed from a due reverence to God, to society, and to ourselves.
2. Artificial decoration is neither fine enough to deceive, nor handsome to please, nor wholesome to use.*

---

* In the Treatise De Augmentis, this passage is thus altered:

Adulterate decoration by painting and cerusse, is well worthy of the imperfections which attend it; being neither fine enough to deceive, nor handsome to please, nor wholesome to use.

We read of Jesabel that she painted her face: but there is no such report of Esther or Judith.

Strength . . . 168

1. It means any ability of body to which the body of man may be brought.
2. Division.
    1. Activity.
        1. Strengh.
        2. Swiftness.
    2. Patience.
        1. Hardness against want.
        2. Endurance of pain.
3. General receptacle for acts of great bodily endurance.
2. The philosophy of athletics is not much investigated.
3. The mediocrity of athletics is for use; the excess for ostentation.

Pleasure 169

Their chief deficience is in laws to repress them.

> *It hath been well observed, that the arts which flourish in times while virtue is in growth, are military; and while virtue is in state, are liberal; and while virtue is in declination, are voluptuary.**

---

* In Bacon's Essay on Vicissitude of Things, he says,

> *In the youth of a state, arms do flourish; in the middle age of a state, learning; and then both of them together for a time: in the declining age of a state, mechanical arts and merchandise.*

Lloyd, in his Life of Sir Edward Howard, says, almost in the same words,

> *In the youth of this state, as if all others, arms did flourish; in the middle state of it, learning; and in the declining (as covetousness and theft attend old age) mechanic arts and merchandise.*

Q. 1. Is this observation founded on fact?

Q. 2. Supposing it to be founded on fact; what are the causes? —Does commerce lower the character? Is the service of mammon at variance with the service of God?

Q. 3. Supposing the mechanical arts and merchandize hitherto to have accompanied the decline of states, may they not both be traced to excess of civilization, instead of being supposed to flow from each other?

The Mind.

1. Division: 1st. As to the origin of the mind. 2d. As to its faculties.

The Origin of the Mind . . 170

1. To this appertains the consideration of the origin of the soul and its faculties.
2. This subject may be more diligently enquired than it hath been in philosophy: but it is referable to divinity.
3. Appendices to this knowledge: 1. Divination. 2. Fascination.

Divination 171

1. Division.

1. Artificial. { 1. Rational. 2. Superstitious.
2. Natural. { 1. Native. 2. By Influxion.

Artificial Divination.

2. Artificial is a prediction by argument, concluding upon signs and tokens.
3. Division: 1st. Rational. 2d. Superstitious.
4 Rational artificial divination is when the argument is coupled with a derivation of causes.

The astronomer hath his predictions, as of conjunctions, aspects, eclipses, and the like. The physician hath his predictions of death, of recovery, of the accidents and issues of diseases. The politician hath his predictions; "O urbem venalem, et cito perituram, si emptorem invenerit!" which stayed not long to be performed, in Sylla first, and after in Cæsar.

5. Superstitious artificial divination is when there is a mere casual coincidence of the event and prediction.

Such as were the heathen observations upon the inspection of sacrifices, the flights of birds, the swarming of bees; and such as was the Chaldean astrology, and the like.

Q. 4. Supposing the opinion to be founded on fact; will not the evil now be prevented by the art of printing?

6. Artificial divination is not proper to this place, but should be referred to the sciences to which it appertains.

Natural Divination.

1. It is a prediction from the internal nature of the soul.
2. Division: 1st. Native. 2d. By influxion.
3. Native divination is grounded on the supposition that the mind, when withdrawn and collected into itself, and not diffused into the organs of the body, hath, from the natural power of its own essence, some prenotion of future things: as *in sleep, extacies, propinquity of death, &c.* 172
4. It is furthered: by abstinence.
6. Divination by influxion is grounded upon the supposition that the mind, as a mirror, takes illumination from the foreknowledge of God and spirits.
7. Divination of influxion* is furthered by abstinence.
8. Native divination is accompanied by repose and quiet: divination by influxion is fervent and impatient.

Fascination . . . 172

1. It is the power of imagination upon other bodies than the body of the imaginant.
2. Of the erroneous opinions upon fascination.
3. Enquiry how to fortify the imagination.
4. The only defect in this subject is as to not distinguishing its extent.†

THE USE AND OBJECT OF THE FACULTIES OF MAN 173

1. Division of this knowledge: 1st. Relating to the understanding. 2d. Relating to the will.
2. The understanding produces *decrees*; the will *actions*.

---

* Query, Whether divination by influxion is not descriptive of the feeling which influences the benevolent and orderly class of society called Quakers?

† Here, in the Treatise De Augmentis, is an extensive addition upon Voluntary Motion—Sense and Sensibility—Perception and Sense—The Form of Light.

This Janus of imagination hath differing faces; for the face towards reason hath the print of truth, but the face towards action hath the print of good; which nevertheless are faces,

"Quales decet esse sororum."

It was well said by Aristotle, "That the mind hath over the body that commandment, which the lord hath over a bondman; but that reason hath over the imagination that commandment which a magistrate hath over a free citizen;" who may come also to rule in his turn.

3. Observations upon the imagination.

Poesy is rather a pleasure or play of imagination, than a work or duty thereof.

Of the Understanding.

1. Knowledge respecting the understanding is to most wits the least delightful; and seems but a net of subtlety and spinosity; but it is the key of all other arts.

As knowledge is "pabulum animi;" so in the nature of men's appetite to this food, most men are of the taste and stomach of the Israelites in the desert, that would fain have returned "ad ollas carnium."

Division 176

1. Invention.
2. Judgment.
3. Memory.
4. Tradition.

Invention 176

1. Division.
   1. Of arts and sciences.
   2. Of arguments.
2. The art of inventing arts and sciences is deficient.

This is such a deficience as if, in the making of an inventory touching the state of a defunct, it should be set down, that there is no ready money. For as money will fetch all other commodities, so this knowledge is that which should

purchase all the rest. And like as the West-Indies had never been discovered, if the use of the mariner's needle had not been first discovered, though the one be vast regions, and the other a small motion; so it cannot be found strange if sciences be no further discovered, if the art itself of invention and discovery hath been passed over.

3. Proofs that the art of inventing arts and sciences is deficient.

Men are rather beholden to a wild goat for surgery, or to a nightingale for music, or to the ibis for some part of physic, or to the pot lid that flew open for artillery, or generally to chance, or any thing else, than to logic, for the invention of arts and sciences.

It was no marvel, the manner of antiquity being to consecrate inventors, that the Ægyptians had so few human idols in their temples, but almost all brute.

Who taught the raven in a drought to throw pebbles into an hollow tree, where she espied water, that the water might rise so as she might come to it? Who taught the bee to sail through such a vast sea af air, and to find the way from a field in flower, a great way off, to her hive? Who taught the ant to bite every grain of corn that she burieth in her hill, lest it should take root and grow?

To conclude upon an enumeration of particulars, without instance contradictory, is no conclusion, but a conjecture; for who can assure, in many subjects upon those particulars which appear of a side, that there are not other on the contrary side which appear not? As if Samuel should have rested upon those sons of Jesse which were brought before him, and failed of David, who was absent in the field.

3. Allowing some axioms to be rightly induced, middle propositions cannot be inferred from them in subject of nature by syllogism.

Here was their chief error; they charged the deceit upon

the senses; which in my judgment, notwithstanding all their cavillations, are very sufficient to certify and report truth, though not always immediately, yet by comparison, by help of instrument, and by producing and urging such things as are too subtile for the sense to some effect comprehensible by the sense, and other like assistance. But they ought to have charged the deceit upon the weakness of the intellectual powers, and upon the manner of collecting and concluding upon the reports of the senses.

4. Bacon's intention to propound the art of inventing arts and sciences by two modes: 1st. *Experientia literata.* 2d. *Interpretatio naturæ.**

INVENTION OF SPEECH OR ARGUMENT . 183

1. It is more properly memory with application than invention.

We do account it a chase, as well of deer in an enclosed park as in a forest at large.

2. Modes of producing this recollection: 1st. Preparation. 2d Suggestion.

Preparation.

1. It is the storing arguments on such things as are frequently discussed.
2. It consists chiefly of diligence.

Aristotle said the sophists "did as if one that professed the art of shoe-making should not teach how to make a shoe, but only exhibit, in a readiness a number of shoes of all fashions and sizes." But yet a man might reply, that if a shoemaker should have no shoes in his shop, but only work as he is bespoken, he should be weakly customed.

Our Saviour, speaking of divine knowledge, saith, that the kingdom of heaven is like a good householder, that bringeth forth both new and old store.

---

* The Experientia Literata is contained in the Treatise De Augmentis; and his Interpretatio Naturæ, constitutes his Novum Organum.

3. This subject is more fully investigated under the head of rhetoric.

Suggestion 185

1. It directs the mind to certain marks, as a mode of exciting it to the production of acquired knowledge.
2. Different sorts of topics: 1. General. 2. Particular.

General Suggestion.

1. Its uses are to furnish arguments to dispute probably: to minister to our judgments: to conclude right, and to direct our enquiries.

A faculty of wise interrogating is half a knowledge. For as Plato saith, "Whosoever seeketh, knoweth that which he seeketh for in a general notion; else how shall he know it when he hath found it?"

Particular Suggestion.

1. It is a direction of invention in every particular knowledge.
2. Ars inveniendi adolescit cum inventis.

In going up a way, we do not only gain that part of the way which is passed, but we gain the better sight of that part of the way which remaineth.

Judgment 186

1. It relates to the nature of proofs and demonstrations.
2. Different modes of judging: 1. By induction, which is referred to the Novum Organum. 2. By syllogism.

Of Syllogism.

1. Syllogisms are agreeable to the mind, and have been much laboured.

The nature of man doth extremely covet to have somewhat in his understanding fixed and immoveable, and as a rest and support of the mind. And therefore as Aristotle endeavoureth to prove, that in all motion there is some point quiescent; and as he elegantly expoundeth the ancient

fable of Atlas, that stood fixed, and bare up the heaven from falling, to be meant of the poles or axle-tree of heaven, whereupon the conversion is accomplished; so assuredly men have a desire to have an Atlas or axle-tree within, to keep them from fluctuation.

2. The art of judging by syllogism is the reduction of propositions to principles by an agreed middle term.
3. Syllogisms are direct, or ex absurdo.
4. Division of the art of judgment: 1st. The *analytic* art. 2. The doctrine of *elenchs*.

The Analytic Art.

5. It is for direction.
6. It sets down the true form of arguments, from which any deviation leads to error.

The Doctrine of Elenchs . . 188

7. It is for caution to detect fallacies.

In the more gross sorts of fallacies it happeneth, as Seneca maketh the comparison well, as in juggling feats, which though we know not how they are done, yet we know well it is not as it seemeth to be.

8. Elenchs are well laboured by Plato and Aristotle.
9. The virtuous use of this knowledge is to redargue sophisms: the corrupt use for caption and contradiction.

The difference is good which was made between orators and sophisters, that the one is as the greyhound, which hath his advantage in the race, and the other as the hare, which hath her advantage in the turn.

10. Elenchs extend to divers parts of knowledge.
11. The references touching the common adjuncts of essences is an elench.
12. Seducements that work by the strength of impression are elenchs 190
13. Elenchs of idols.

The mind of man, which I find not observed or inquired at all, and think good to place here, as that which of all

others appertaineth most to rectify judgment: the force whereof is such, as it doth not dazzle or snare the understanding in some particulars, but doth more generally and inwardly infect and corrupt the state thereof. For the mind of man is far from the nature of a clear and equal glass, wherein the beams of things should reflect according to their true incidence; nay, it is rather like an enchanted glass, full of superstition and imposture, if it be not delivered and reduced.

14. The mind is more affected by affirmatives than negatives.(p)

As was well answered by Diagoras to him that shewed him in Neptune's temple the greater number of pictures of such as had escaped shipwreck and had paid their vows to Neptune, saying, "Advise now, you that think it folly to invocate Neptune in tempest:" "Yea, but," said Diagoras, "where are they painted that are drowned?"

15. The mind supposes a greater equality then exists.(q)

The mathematicians cannot satisfy themselves, except they reduce the motions of the celestial bodies to perfect circles, rejecting spiral lines, and labouring to be discharged of eccentrics.

16. The mind is prejudiced by the false appearances imposed by every man's own individual nature and custom (r) 192

If a child were continued in a grot or cave under the earth until maturity of age, and came suddenly abroad, he would have strange and absurd imaginations. So in like manner, although our persons live in the view of heaven, yet our spirits, are included in the caves of our own complexions and customs, which minister unto us infinite errors and vain opinions, if they be not recalled to examination.

17. The mind is misled by words.(s)

18. The cautions against these idols are defective . 193

19. The application of the different kinds of proofs to different subjects.

(p) See note (P) at the end. (q) See note (Q) at the end.
(r) See note (R) at the end. (s) See note (S) at the end.

20. Different kinds of demonstrations.

1. Immediate consent.
2. Induction.
3. Sophism.
4. Congruity.

The rigour and curiosity in requiring the more severe proofs in some things, and chiefly the facility in contenting ourselves with the more remiss proofs in others, hath been amongst the greatest causes of detriment and hindrance to knowledge.

21. This is deficient.

MEMORY (t) . . . 194

Retaining knowledge is by writing or memory.

Writing.

The nature of the character is referred to grammar.
The disposition of our knowledge depends upon common places.
Of common places injuring the memory.

Because it is but a counterfeit thing in knowledges to be forward and pregnant, except a man be deep and full, I hold the entry of common-places, to be a matter of great use and essence in studying, as that which assureth "copia" of invention, and contracteth judgment to a strength.

The mode of common placing is defective.

Memory 195

It is weakly enquired.
Precepts for memory have been exalted for ostentation, not for use.

I make no more estimation of repeating a great number of names or words upon once hearing, or the pouring forth of a number of verses or rhimes ex tempore, or the making

(t) See note (T) at the end.

of a satirical simile of every thing, or the turning of every thing to a jest, or the falsifying or contradicting of every thing by cavil, or the like, (whereof in the faculties of the mind there is great "copia," and such as by device and practice may be exalted to an extreme degree of wonder,) than I do of the tricks of tumblers, funambuloes, baladines; the one being the same in the mind that the other is in the body, matters of strangeness without worthiness.

Art of memory is built upon prenotion and emblem.

Prenotion is a limitation of an indefinite seeking by directing us to seek in a narrow compass.

Emblem reduces conceits intellectual to images sensible.

It is the transferring our knowledge to others.

Division of the subject.

1. The organ of speech.
2. The method of speech.
3. The ornament of speech.

THE ORGAN OF SPEECH.

Whatever is capable of sufficient differences and perception by the sense is competent to express thought.

Different Signs of Thought.

1. Having similitude with the notion.
   1. Hieroglyphics.
   2. Gestures.
2. Not having similitude or words.

The antiquity of hieroglyphics.

Gestures are as transitory hieroglyphics.

Periander, being consulted with how to preserve a tyranny newly usurped, bid the messenger attend and report what he saw him do; and went into his garden and topped all the highest flowers.

Of Grammar.

Man still striveth to reintegrate himself in those benedictions, from which by his fault he hath been deprived; and as he hath striven against the first general curse by the invention of all other arts, so hath he sought to come forth of the second general curse, which was the confusion of tongues, by the art of grammar: whereof the use in a mother tongue is small, in a foreign tongue more; but most in such foreign tongues as have ceased to be vulgar tongues, and are turned only to learned tongues.

The accidents of words, as *measure, sound,* &c. is an appendix to grammar.

There are various sorts of cyphers.

As there be many of great account in their countries and provinces, which, when they come up to the seat of the estate, are but of mean rank and scarcely regarded; so these arts, being here placed with the principal and supreme sciences, seem petty things; yet to such as have chosen them to spend their labours and studies in them, they seem great matters.

THE METHOD OF SPEECH.

It is deficient.

Impatience of method.

Different sorts of methods.

The use of grammar is small in mother tongues—is greater in foreign living tongues; but greatest in dead languages 198

Duties of grammar are two.

1. Popular.
2. Philosophical.

Popular grammar is for the learning and speaking languages.

Philosophical grammar examines the power of words as they are the footsteps of reason 199

First Method. Magistral which teaches, or initiative which insinuates 201

He that delivereth knowledge, desireth to deliver it in such form as may be best believed, and not as may be best

examined; and he that receiveth knowledge, desireth rather present satisfaction, than expectant inquiry; and so rather not to doubt, than not to err.

Knowledge that is delivered as a thread to be spun on, ought to be delivered and intimated, if it were possible, in the same method wherein it was invented; and so is it possible of knowledge induced.

It is in knowledges as it is in plants; if you mean to use the plant, it is no matter for the roots; but if you mean to remove it to grow, then it is more assured to rest upon roots than slips: so the delivery of knowledges, as it is now used, is as of fair bodies of trees without the roots; good for the carpenter, but not for the planter. But if you will have sciences grow, it is less matter for the shaft or body of the tree, so you look well to the taking up of the roots.

Second Method. A concealed or revealed style . . 203

Third Method. Method or aphorisms.

1. Delivery by aphorisms is a test of the knowledge of the writer.
2. Methodical delivery is better to procure consent than to generate action.
3. Aphorisms invite to augment knowledge.

Fourth Method. Delivery by *assertions, with their proofs* or *interrogations.*

4. Delivery by interrogations should be used only to remove stray prejudices.

If it be immoderately followed, is as prejudicial to the proceeding of learning, as it is to the proceeding of an army to go about to besiege every little fort or hold. For if the field be kept, and the sum of the enterprise pursued, those smaller things will come in of themselves.

Fifth Method. Accommodation of delivery according to the matter which is to be treated.

Sixth Method. Delivery according to the anticipation in the minds of the hearers.

1. Those whose conceits are seated in popular opinions need only to dispute or to prove.

2. Those whose conceits are beyond popular opinions have a double labour. 1st. That they may be conceited. 2d. That they may prove.

3. Science not consonant to presuppositions must bring in aid similitudes.

Method considers the disposition of the work, and the limitation of propositions 206

It belongeth to architecture to consider not only the whole frame of a work, but the several beams and columns.

Observations upon the limits of propositions.

Of the method of imposture.

A mass of words of all arts, to give men countenance, that those which use the terms might be thought to understand the art; which collections are much like a fripper's or broker's shop, that hath ends of every thing, but nothing of worth.

ILLUSTRATIVE OF SPEECH . . 208

1. Eloquence is in reality inferior to wisdom; but in popular opinions superior to it.

It is said by God to Moses, when he disabled himself for want of this faculty, Aaron shall be thy speaker, and thou shalt be to him as God.

2. The deficiences in eloquence are rather in some collections than in the art itself.

3. The office of rhetoric is to apply reason to imagination for the better moving of the will.

4. The disturbers of reason are fallacies of arguments: assiduity of impression, and violence of passion.

5. The counteractors of these disturbers are logic, morality and rhetoric.

6. Speech is more conversant in adorning what is good than in colouring evil.

"Virtue, if she could be seen, would move great love and affection;" so seeing that she cannot be shewed to the sense by corporal shape, the next degree is to shew her to the imagination in lively representation.

OF THE WILL . . . 219

1. Writers on this subject have described virtues without pointing out the mode of attaining them.

Those which have written seem to me to have done as if a man, that professeth to teach to write, did only exhibit fair copies of alphabets and letters joined, without giving any precepts or directions for the carriage of the hand and framing of the letters.

These Georgics of the mind, concerning the husbandry and tillage thereof, are no less worthy than the heroical descriptions of virtue, duty, and felicity.

2. Division of moral philosophy 221
   1. The image of good.
   2. The culture of the mind.

THE IMAGE OF GOOD.

1. Describes the nature of good.
2. Division.
   1. The kinds of good.
   2. The degrees of good.
3. The antients were defective in not examining the springs of good and evil.
4. Good is: 1. Private. 2. Public.

There is formed in every thing a double nature of good: the one, as every thing is a total or substantive in itself; the other, as it is a part or member of a greater body; whereof the latter is in degree the greater and the worthier, because it tendeth to the conservation of a more general form. Therefore we see the iron in particular sympathy moveth to the loadstone; but yet if it exceed a certain quantity, it forsaketh the affection to the loadstone, and like a good patriot moveth to the earth, which is the region and country of massy bodies.

5. Public is more worthy than private good.

Pompeius Magnus, when being in commission of purveyance for a famine at Rome, and being dissuaded with great vehemency and instance by his friends about him, that he should

not hazard himself to sea in an extremity of weather, he said only to them, "Necesse est ut eam, non ut vivam."

The Degrees of Good.

The questions respecting the supreme good are by Christianity disclosed.

6. An active is to be preferred to contemplative life.

Pythagoras being asked what he was, answered, "That if Hiero were ever at the Olympian games, he knew the manner, that some came to try their fortune for the prizes, and some came as merchants to utter their commodities, and some came to make good cheer and meet their friends, and some came to look on; and that he was one of them that came to look on." But men must know, that in this theatre of man's life it is reserved only for God and angels to be lookers on.

For contemplation which should be finished in itself, without casting beams upon society, assuredly divinity knoweth it not.

7. The ascendancy of public good terminates many disputes of the ancient philosophers 226

1. It decides the controversies between Zeno and Socratas, and the Cyrenaics and Epicureans, whether felicity consisted in virtue or pleasure, or serenity of mind 225

2. It censures the philosophy of Epictetus, which placed felicity in things within our power.

Gonsalvo said to his soldiers, shewing them Naples, and protesting, "He had rather die one foot forwards, than to have his life secured for long by one foot of retreat."

The conscience of good intentions, howsoever succeeding, is a more continual joy to nature, than all the provision which can be made for security and repose.

3. It censures the abuse of philosophy in Epictetus's time, in converting it into an occupation or profession 227

This philosophy introduces such a health of mind, as was

that of Herodicus in body, who did nothing all his life, but intend his health.

'Sustine,' *and not* 'Abstine,' *was the commendation of Diogenes.*

4. It censures the hasty retiring from business.

The resolution of men truly moral ought to be such as the same Gonsalvo said the honour of a soldier should be, "e telâ crassiore," and not so fine as that every thing should catch in it and endanger it.

PRIVATE GOOD . . . 228

1. It is: 1st. Active. 2d. Passive.

Active Private Good.

2. Active is preferable to passive private good.

Vita sine proposito languida et vaga est.

3. Active private good has not an identity with the good of society 229

Passive Private Good.

4. It is: 1st. Conversative. 2d. Perfective.

Good Perfective . . . 230

5. Good perfective is of a higher nature than good conversative.

Man's approach or assumption to divine or angelical nature is the perfection of his form.

6. The imitation of perfection is the tempest of life.*

As those which are sick, and find no remedy, do tumble up and down and change place, as if by a remove local they could obtain a remove internal; so is it with men in ambition, when failing of the means to exalt their nature, they are in a perpetual estuation to exalt their place.

Good Conversative . . . 231

7. It consists in the practice of that which is agreeable to our nature.

---

* Q. Is not this the difference between the love of excelling and the love of excellence?

6. A knowledge of the impostures of professions is incident to the knowledge of professional duties, and is deficient.

As the fable goeth of the basilisk, that if he see you first, you die for it; but if you see him first, he dieth: so is it with deceits and evil arts; which, if they be first espied, they loose their life; but if they prevent, they endanger.

We are much beholden to Machiavel and others, that write what men do, and not what they ought to do. For it is not possible to join serpentine wisdom with the columbine innocency, except men know exactly all the conditions of the serpent; his baseness and going upon his belly, his volubility and lubricity, his envy and sting, and the rest; that is, all forms and natures of evil: for without this, virtue lieth open and unfenced.

7. To this subject appertains the duties of husband and wife, parent and child, friendship, gratitude, &c.

8. This knowledge concerning duties considers comparative duties.

We see in the proceeding of Lucius Brutus against his own sons, which was so much extolled; yet what was said?

"Infelix, utcunque ferent ea fata minores."

Men must pursue things which are just in present, and leave the future to the divine Providence.

1. Enquiry must be made not only of the nature of virtue, but how it may be attained.

An exhibition of the nature of good without considering the culture of the mind, seemeth to be no better than a fair images, or statue, which is beautiful to contemplate, but is without life and motion.

2. Morality should be the handmaid of divinity.

3. We ought to cast up our account, what is in our power and what not 241

The husbandman cannot command, neither the nature of the earth, nor the seasons of the weather; no more can the physician the constitution of the patient, nor the variety of

accidents: so in the culture and cure of the mind of man, two things are without our command; points of nature, and points of fortune; for to the basis of the one, and the conditions of the other, our work is limited and tied.

Of Men's Natures, or Inherent Dispositions.

4. The foundation of the culture of the mind is the knowledge of its nature.

"There are minds which are proportioned to great matters, and others to small."

"There are minds proportioned to intend many matters, and others to few?"

"Some minds are proportioned to that which may be dispatched at once, or within a short return of time; others to that which begins a far off, and is to be won with length of pursuit.

There is a disposition in conversation to soothe and please; and a disposition contrary to contradict and cross.

There is a disposition to take pleasure in the good of another.

5. This subject has been negligently enquired by moralists, with some beauty by astrologers, and by words in relations.

History, poesy, and daily experience are as goodly fields where these observations grow; whereof we make a few posies to hold in our hands, but no man bringeth them to the confectionary, that receipts might be made of them for the use of life.

6. Natural and accidental impressions should be noted.

The Affections 245

7. Enquiry should be made of the affections.

As the ancient politicians in popular states were wont to compare the people to the sea, and the orators to the winds; because as the sea would of itself be calm and quiet, if the winds did not move and trouble it; so the people would be peaceable and tractable, if the seditious orators did not set them in working and agitation: so it may be fitly said, that

the mind in the nature thereof would be temperate and stayed, if the affections, as winds, did not put it into tumult and perturbation.

8. This subject has been investigated by Aristotle, and by the Stoics, and in different scattered works; but the poets and historians are the masters of the passions . 246

9. Of the opposition of passions to each other.

The Origin of the Mind . . . 247

10. Enquiries should be made of custom, exercise, habit, education, friendship, &c.

Of Custom and Habit.

11. Aristotle's error in stating too generally that those things which are natural cannot be changed.

12. Virtues and vices consist in habits.

13. Precepts for the formation of habits.*

1. Beware that at the first a task be taken neither too high nor too weak.†

2. Practice all things at two seasons; when the mind is best disposed and when it is worst disposed.

By the one you may gain a great step, by the other you may work out the knots and stonds of the mind, and make the middle times the more easy and pleasant.

3. Ever bear toward the contrary extreme of that to which you are inclined.

Like unto the rowing against the stream, or making a wand straight by bending him contrary to his natural crookedness.

---

* See Bacon's Essay "Of Nature in Men," and "Of Custom and Education."

† Bacon's Essay "Of Nature in Man."

He that seeketh victory over his nature, let him not set himself too great, nor too small tasks; for the first will make him dejected by often failings; and the second will make him a small proceeder, though by often prevailings.

* What says the morality of our universities, to this opinion?

him, he is invested of a precedent disposition to conform himself thereunto.

20. There is a sympathy between the good of the body and of the mind.

As we divided the good of the body into health, beauty, strength, and pleasure; so the good of the mind, inquired in rational and moral knowledges, tendeth to this, to make the mind sound, and without perturbation; beautiful, and graced with decency; and strong and agile for all duties of life.

MAN IN SOCIETY.

1. Reasons why ethics are in some respects more difficult than politics 256

1. Morality relates to man segregate: politics to man congregate.

Cato the censor said, "that the Romans were like sheep, for that a man might better drive a flock of them, than one of them; for in a flock, if you could get but some few to go right, the rest would follow."

2. The object of morals is internal good; for policy external sufficeth.

3. States are not so suddenly subverted as individuals 257

States, as great engines, move slowly, and are not so soon put out of frame: for as in Egypt the seven good years sustained the seven bad, so governments, for a time well grounded, do bear out errours following.

2. Division of civil knowledge.

1. Conversation for comfort.
2. Negociation for use.
3. Government for protection.

CONVERSATION . . . 257

3. Wisdom of conversation ought not to be too much affected, much less despised.

4. Of behaviour.

The sum of behaviour is to retain a man's own dignity, without intruding upon the liberty of others.

Behaviour seemeth to me as a garment of the mind, and to have the conditions of a garment. For it ought to be made in fashion; it ought not to be too curious; it ought to be shaped so as to set forth any good making of the mind, and hide any deformity; and above all, it ought not to be too strait, or restrained for exercise or motion.

5. Evils of too much attention to behaviour.
   1. The danger of affectation.
   2. Waste of time.
   3. Waste of mind, and checking aspirings to higher virtues.
   4. Retarding action.
6. The knowledge of conversation is not deficient . . . 259

1. This knowledge to the derogation of learning hath not been collected into writing.

   Of the three wisdoms which we have set down to pertain to civil life, for wisdom of behaviour, it is by learned men for the most part despised, as an inferior to virtue, and an enemy to meditation; for wisdom of government, they acquit themselves well when they are called to it, but that happeneth to few; but for the wisdom of business, wherein man's life is most conversant, there be no books of it, except some few scattered advertisements, that have no proportion to the magnitude of this subject.

2. This knowledge is reducible to precept, illustrated by the proverbs of Solomon 261
3. Antient fables and parables contain information upon this subject 266
4. The proper form of writing upon this subject is discourse upon history or examples.
5. Of discourses upon history of times, and upon lives, and upon letters 267

7. The fundamental precept is to acquire knowledge of the particular motives by which those with whom we have to deal are actuated 270

Obtain that window which Momus did require: who seeing in the frame of man's heart such angles and recesses, found fault that there was not a window to look into them.

8. The sinews of wisdom are slowness of belief.

9. General modes of acquiring a knowledge of others . 275

1. A general acquaintance with knowing men.
2. A good mediocrity in liberty of speech and secrecy: indulging rather in freedom of speech.
3. A watchful and serene habit of observing when acting.

10. Modes by which the knowledge of man is acquired.

1. By their faces.
2. By words.
3. By deeds.
4. By their natures.
5. By their ends.
6. By the relations of others.

11. More trust is to be given to countenances and deeds, than to words 271

The Faces.

12. Much reliance cannot be placed upon the face at rest.

13. The face in motion cannot deceive a vigilant observer.

It is animi janua.

Words.

14. They are full of flattery 273

15. Modes in which words disclose character . . 274

1. When sudden.

——— vino tortus et irâ.

2. From affections.
3. From counter simulation.

Deeds.

16. They are not to be trusted without a diligent consideration of their magnitude and nature.

Natures and End of Men.

17. This is the surest key to unlock men's minds.

18. The weakest men are best interpreted by their natures; the wisest by their ends.

*It is an errour frequent for men to shoot over, and to suppose deeper ends, and more compass-reaches than are.**

19. Princes are best interpreted by their natures; private persons by their ends.

20. The variety and predominancy of affections are to be estimated.

Reports of Others.

21. Modes by which our defects and virtues may be estimated from report 274

Of the Knowledge of Ourselves . . 276

22. A man ought to make an exact estimate of his merits and defects: accounting these with the most, and those with the least.

Though men look oft in a glass, yet they do suddenly forget themselves.

Particular Considerations respecting Self-Knowledge.

23. The consonance, or dissonance of his constitution and temper with the times.

---

* Neither give thou Æsop's cock a gem, who would be better pleased and happier if he had a barley-corn. The examples of God teaches the lesson truly: "He sendeth his rain, and maketh his sun to shine, upon the just and unjust:" but he doth not rain wealth, nor shine honour and virtues upon men equally: common benefits are to be communicated with all, but peculiar benefits with choice. —Bacon's Essay on Goodness and Goodness of Nature.

Tiberius was never seen in public. Augustus lived ever in men's eyes.

24. The adaptation of his nature to the different professions and courses of life.

25. The competitors in different professions; that the course may be taken where there is most solitude.

As Julius Cæsar did, who at first was an orator or pleader; but when he saw the excellency of Cicero, Hortensius, Catulus, and others, for eloquence, and saw there was no man of reputation for the wars but Pompeius, upon whom the state was forced to rely, he forsook his course begun toward a civil and popular greatness, and transferred his designs to a martial greatness.

26. In the choice of friends to consult similar nature.

As we may see in Cæsar; all whose friends and followers were men active and effectual, but not solemn, or of reputation.

27. Caution in not being misled by examples.

In which error it seemeth Pompey was, of whom Cicero saith, that he was wont often to say, "Sylla potuit, ego non potero?"

1. Caution.
2. Colour.
3. Confidence.

34. A man should not dismantle himself by shewing too much dulceness, goodness, and facility of nature, without sparkles of liberty, spirit, and edge.

35. The mind should be pliant and obedient to occasion 282

Nothing is more politic than to make the wheels of our mind concentric and voluble with the wheels of fortune.

36. Precepts for the architect of his own fortune.

1. He should not engage in too arduous matters . 283

Fatis accede deisque.

2. He should be able to plan and to execute.
3. He should observe a good mediocrity in the declaring or not declaring himself 284
4. He should judge of the proportion or value of things.

*We shall find the logical part, as I may term it, of some men's minds good, but the mathematical part erroneous; that is, they can well judge of consequences, but not of proportions and comparisons, preferring things of shew and sense before things of substance and effect.**

5. He should consider the order in which objects should be attained 286

1. The mind should be amended.
2. Wealth and means should be attained.†

---

* Men run after the satisfaction of their sottish appetites, foolish as fishes pursuing a rotten worm that covers a deadly hook: or like children with great noise pursuing a bubble rising from a walnut shell.

B. J. TAYLOR.

† Money brings honour, friends, conquest and realms:
Therefore, if at great things thou wouldst arrive,
Get riches first, get wealth, and treasure heap.——
Riches are mine, fortune is in my hand:
They whom I favour thrive in wealth amain,
While virtue, valour, wisdom, sit in want.
To whom thus Jesus patiently replied:

3. Fame and reputation should be acquired.

*Because of the peremptory tides and currents it hath; which, if they be not taken in their due time, are seldom recovered, it being extreme hard to play an after-game of reputation.**

4. Honour should be sought.

6. He must not embrace matters which occupy too much time.

Sed fugit interea: fugit irreparabile tempus.

Yet wealth, without these three, is impotent
To gain dominion, or to keep it gained.
Witness &c.

Bacon says, "God in the first day of creation made nothing but light, allowing one whole day to that work, without creating any material thing therein: so the experiments of light and not of profit should be first investigated.

* There are various sentiments similar to this in Shakespeare. "There is a tide in the affairs of men," &c. So in Anthony and Cleopatra.

Who seeks and will not take when once 'tis offered,
Shall never find it more.

The Advancement of Learning was published in 1605. Shakespeare died in 1616. There is a copy of the Advancement of Learning in existence, with Shakespeare's autograph in it. The same sentiment is expressed by Dryden.

Heaven has to all allotted soon or late,
Some lucky revolution of their fate;
Whose motions if we watch and guide with skill,
For human good *depends* on *human* will.
Our fortune rolls as from a smooth descent,
And from the first impression takes the bent;
But if unseized! she glides away like wind,
And leaves repenting folly far behind!

The same sentiment is contained in the Essays. "It is usually said of Fortune that she has locks before but none behind." "Fortune is like Time, if you do not take him by the forelock; he turns his bald noddle to you;" or at least, turneth the handle of the bottle first to be received; and after the belly, which is hard to claspe.

7. He should imitate nature which does nothing in vain* 288

If he cannot make any thing of it for the present, yet to make it as a seed of somewhat in time to come.

8. He should reserve a power to retreat . . 289

Following the wisdom in the ancient fable of the two frogs, which consulted when their plash was dry whither they should go; and the one moved to go down into a pit, because it was not likely the water would dry there; but the other answered, "True, but if it do, how shall we get out again?"

9. He should be cautious in his friendships and enmities.

"Et ama tranquam inimicus futurus, et odi tanquam amaturus."

37. Fortunes may be obtained without precept.

They come tumbling into some men's laps; and a number obtain good fortunes by diligence in a plain way, little intermeddling, and keeping themselves from gross errors.

38. Of vicious precepts for self-advancement . . 290

39. The number of bad precepts for advancement in life is greater than good 290

It is in life as it is in ways, the shortest way is commonly the foulest, and surely the fairer way is not much about.

40. In the pursuit of fortune, man ought to set before his eyes the general map of the world 211

All things are vanity and vexation of spirit.—Being without well being is a curse: and the greater the being, the greater the curse.

41. The incessant and sabbathless pursuit of fortune leaveth not the tribute which we owe to God of our time.

It is to small purpose to have an erected face towards heaven, and a perpetual grovelling spirit upon earth, eating dust, as doth the serpent.

---

* Events are not in our power; but it always is to make a good use of the very worst. *Minute Philosopher.*

---

* See the Treatise "De Augmentis," where some progress is made in this science, now nobly advanced, and advancing by the labours of Bentham.—(See note U.)

8. Observations upon the prospects of the progress of knowledge.

REVEALED RELIGION . . . 299

1. It is the sabbath of all men's labours.
2. The prerogative of God extends to man's reason, and to his will.
3. Sacred theology is grounded upon the oracle of God.
4. The use of reason in matters spiritual is extensive.

The Christian Faith, as in all things, so in this deserveth to be highly magnified; holding and preserving the golden mediocrity in this point between the law of the heathen and the law of Mahomet, which have embraced the two extremes. For the religion of the heathen had no constant belief or confession, but left all to the liberty of argument; and the religion of Mahomet, on the other side, interdicteth argument altogether: the one having the very face of error, and the other of imposture.

5. Uses of reason in spiritual matters 301
   1. In the conception of revealed mysteries.
   2. In inferences from revelation.
6. A treatise on the limits of reason in spiritual matters is wanting.

This would be an opiate to stay and bridle not only the vanity of curious speculations, wherewith the schools labour, but the fury of controversies, wherewith the church laboureth.

7. Parts of divinity.
   1. The matter revealed.
   2. The nature of the revelation . 30

THE NATURE OF THE REVELATION.

1. Its limits.
2. Its sufficiency.
3. Its acquisition.

13. Methodical mode of interpretation.

It seems to be more ready, but is more subject to corrupt.

14. Objects of methodical interpretation.

1. Summary brevity.
2. Compacted strength.
3. Complete perfection.

15. Solute method of interpretation 308

16. There have been divers, curious but unsafe modes.

17. Divine knowledge beyond human reach.

1. The mysteries of the kingdom of glory.

The angelical mode of exposition . . 309

The philosophical mode 309

To seek philosophy in divinity is to seek the dead amongst the living: neither are the pots or lavers, whose place was in the outward part of the temple, to be sought in the holiest place of all, where the ark of the testimony was seated.

2. The perfection of the laws of nature.
3. The secrets of the heart of man . . . 311
4. The future succession of all ages.

18. The expositions of scripture are not deficient.

19. A work is wanted of a sound collection of texts, not dilated into common places, or hunting after controversies, or methodized, but scattered.

MATTER REVEALED . . . 313

20. Different sorts.

The one being as the internal soul of religion, and the other as the external body.

1. Matter of belief.
2. Matter of science.

21. Emanations.

1. Faith.

1. The nature of God.
2. The attributes of God.
3. The works of God.

Thus have I made as it were a small Globe of the Intellectual World, as truly and faithfully as I could discover; with a note and description of those parts which seem to me not constantly occupate, or not well converted by the labour of man.

THE TWO BOOKS OF FRANCIS BACON. OF THE PROFICIENCE AND ADVANCEMENT OF LEARNING, DIVINE AND HUMAN.

TO THE KING.

Blank page retained for pagination

THE FIRST BOOK OF FRANCIS BACON. OF THE PROFICIENCE AND ADVANCEMENT OF LEARNING, DIVINE AND HUMAN.

TO THE KING.

THERE were, under the law, excellent king, both daily sacrifices, and freewill offerings; the one proceeding upon ordinary observance, the other upon a devout cheerfulness: in like manner there belongeth to kings from their servants both tribute of duty and presents of affection. In the former of these I hope I shall not live to be wanting, according to my most humble duty, and the good pleasure of your majesty's employments: for the latter, I thought it more respective to make choice of some oblation, which might rather refer to the propriety and excellency of your individual person, than to the business of your crown and state.

Wherefore, representing your majesty many times unto my mind, and beholding you not with the inquisitive eye of presumption, to discover that which the Scripture telleth me is inscrutable, but with the observant eye of duty and admiration;

leaving aside the other parts of your virtue and fortune, I have been touched, yea, and possessed with an extreme wonder at those your virtues and faculties, which the philosophers call intellectual; the largeness of your capacity, the faithfulness of your memory, the swiftness of your apprehension, the penetration of your judgment, and the facility and order of your elocution: and I have often thought, that of all the persons living that I have known, your majesty were the best instance to make a man of Plato's opinion, that all knowledge is but remembrance, and that the mind of man by nature knoweth all things, and hath but our own native and original motions (which by the strangeness and darkness of this tabernacle of the body are sequestered) again revived and restored: such a light of nature I have observed in your majesty, and such a readiness to take flame and blaze from the least occasion presented, or the least spark of another's knowledge delivered. And as the Scripture saith of the wisest king, "That his heart was as the sands of the sea;" which though it be one of the largest bodies, yet it consisteth of the smallest and finest portions; so hath God given your majesty a composition of understanding admirable, being able to compass and comprehend the greatest matters, and nevertheless to touch and apprehend the least; whereas it should seem an impossibility in nature, for the same instrument to make itself fit for great and small works. And for your gift of speech, I call to mind what Cornelius Tacitus saith of Augustus Cæsar; "Au-

"gusto profluens, et quæ principem deceret, elo-
"quentia fuit." For, if we note it well, speech that is uttered with labour and difficulty, or speech that savoureth of the affectation of art and precepts, or speech that is framed after the imitation of some pattern of eloquence, though never so excellent, all this has somewhat servile, and holding of the subject. But your majesty's manner of speech is indeed prince-like, flowing as from a fountain, and yet streaming and branching itself into nature's order, full of facility and felicity, imitating none, and inimitable by any. And as in your civil estate there appeareth to be an emulation and contention of your majesty's virtue with your fortune; a virtuous disposition with a fortunate regiment; a virtuous expectation, when time was, of your greater fortune, with a prosperous possession thereof in the due time; a virtuous observation of the laws of marriage, with most blessed and happy fruit of marriage; a virtuous and most Christian desire of peace, with a fortunate inclination in your neighbour princes thereunto: so likewise, in these intellectual matters, there seemeth to be no less contention between the excellency of your majesty's gifts of nature, and the universality and perfection of your learning. For I am well assured that this which I shall say is no amplification at all, but a positive and measured truth; which is, that there hath not been since Christ's time any king or temporal monarch, which has been so learned in all literature and erudition, divine and human. For let a man seriously and diligently re-

volve and peruse the succession of the emperors of Rome; of which Cæsar the dictator, who lived some years before Christ, and Marcus Antoninus, were the best learned; and so descend to the emperors of Græcia, or of the West; and then to the lines of France, Spain, England, Scotland, and the rest, and he shall find this judgment is truly made. For it seemeth much in a king, if, by the compendious extractions of other men's wits and labours, he can take hold of any superficial ornaments and shews of learning; or if he countenance and prefer learning and learned men: but to drink indeed of the true fountains of learning, nay, to have such a fountain of learning in himself, in a king, and in a king born, is almost a miracle. And the more, because there is met in your majesty a rare conjunction, as well of divine and sacred literature, as of profane and human; so as your majesty standeth invested of that triplicity, which in great veneration was ascribed to the ancient Hermes; the power and fortune of a king, the knowledge and illumination of a priest, and the learning and universality of a philosopher. This propriety, inherent and individual attribute in your majesty, deserveth to be expressed not only in the fame and admiration of the present time, nor in the history or tradition of the ages succeeding; but also in some solid work, fixed memorial, and immortal monument, bearing a character or signature both of the power of a king, and the difference and perfection of such a king.

Therefore I did conclude with myself, that I

could not make unto your majesty a better oblation, than of some treatise tending to that end, whereof the sum will consist of these two parts; the former, concerning the excellency of learning and knowledge, and the excellency of the merit and true glory in the augmentation and propagation thereof: the latter, what the particular acts and works are, which have been embraced and undertaken for the advancement of learning; and again, what defects and undervalues I find in such particular acts: to the end, that though I cannot positively or affirmatively advise your majesty, or propound unto you framed particulars; yet I may excite your princely cogitations to visit the excellent treasure of your own mind, and thence to extract particulars for this purpose, agreeable to your magnanimity and wisdom.

In the entrance to the former of these, to clear the way, and, as it were, to make silence, to have the true testimonies concerning the dignity of learning to be better heard, without the interruption of tacit objections; I think good to deliver it from the discredits and disgraces which it hath received, all from ignorance, but ignorance severally disguised; appearing sometimes in the zeal and jealousy of divines; sometimes in the severity and arrogancy of politicians; and sometimes in the errors and imperfections of learned men themselves.

I hear the former sort say, that knowledge is of those things which are to be accepted of with great limitation and caution; that the aspiring to over-

much knowledge, was the original temptation and sin, whereupon ensued the fall of man; that knowledge hath in it somewhat of the serpent, and therefore where it entereth into a man it makes him swell; "Scientia inflat:" that Solomon gives a censure, "That there is no end of making books, and that "much reading is a weariness of the flesh;" and again in another place, "That in spacious knowledge "there is much contristation, and that he that in-"creaseth knowledge increaseth anxiety;" that St. Paul gives a caveat, "That we be not spoiled through "vain philosophy;" that experience demonstrates how learned men have been arch-heretics, how learned times have been inclined to atheism, and how the contemplation of second causes both derogate from our dependance upon God, who is the first cause.

To discover then the ignorance and error of this opinion, and the misunderstanding in the grounds thereof, it may well appear these men do not observe or consider, that it was not the pure knowledge of nature and universality, a knowledge by the light whereof man did give names unto other creatures in Paradise, as they were brought before him, according unto their proprieties, which gave the occasion to the fall; but it was the proud knowledge of good and evil, with an intent in man to give law unto himself, and to depend no more upon God's commandments, which was the form of the temptation. Neither is it any quantity of knowledge, how great soever, that can make the mind of man to swell; for nothing can fill, much less extend the soul of man, but God and

the contemplation of God; and therefore Solomon speaking of the two principal senses of inquisition, the eye and the ear, affirmeth that the eye is never satisfied with seeing, nor the ear with hearing; and if there be no fulness, then is the continent greater than the content: so of knowledge itself, and the mind of man, whereto the senses are but reporters, he defineth likewise in these words, placed after that calendar or ephemerides, which he maketh of the diversities of times and seasons for all actions and purposes; and concludeth thus: "God hath made all things "beautiful, or decent, in the true return of their sea-"sons: Also he hath placed the world in man's "heart, yet cannot man find out the work which God "worketh from the beginning to the end:" declaring, not obscurely, that God hath framed the mind of man as a mirror or glass, capable of the image of the universal world, and joyful to receive the impression thereof, as the eye joyeth to receive light; and not only delighted in beholding the variety of things, and vicissitude of times, but raised also to find out and discern the ordinances and decrees, which throughout all those changes are infallibly observed. And although he doth insinuate that the supreme or summary law of nature, which he calleth, "The "work which God worketh from the beginning to the "end, is not possible to be found out by man;" yet that doth not derogate from the capacity of the mind, but may be referred to the impediments, as of shortness of life, ill conjunction of labours, ill tradition of knowledge over from hand to hand, and many

other inconveniences, whereunto the condition of man is subject. For that nothing parcel of the world is denied to man's inquiry and invention, he doth in another place rule over, when he saith, "The spirit of "man is as the lamp of God, wherewith he searcheth "the inwardness of all secrets." If then such be the capacity and receipt of the mind of man, it is manifest, that there is no danger at all in the proportion or quantity of knowledge, how large soever, lest it should make it swell or out-compass itself; no, but it is merely the quality of knowledge, which, be it in quantity more or less, if it be taken without the true corrective thereof, hath in it some nature of venom or malignity, and some effects of that venom, which is ventosity or swelling. This corrective spice, the mixture whereof maketh knowledge so sovereign, is charity, which the apostle immediately addeth to the former clause; for so he saith, "knowledge bloweth "up, but charity buildeth up;" not unlike unto that which he delivereth in another place: "If I spake," saith he, "with the tongues of men and angels, and "had not charity, it were but as a tinkling cymbal;" not but that it is an excellent thing to speak with the tongues of men and angels, but because, if it be severed from charity, and not referred to the good of men and mankind, it hath rather a sounding and unworthy glory, than a meriting and substantial virtue. And as for that censure of Solomon, concerning the excess of writing and reading books, and the anxiety of spirit which redoundeth from knowledge; and that admonition of St. Paul, "That we

"be not seduced by vain philosophy;" let those places be rightly understood, and they do indeed excellently set forth the true bounds and limitations, whereby human knowledge is confined and circumscribed; and yet without any such contracting or coarctation, but that it may comprehend all the universal nature of things; for these limitations are three: the first, that we do not so place our felicity in knowledge, as we forget our mortality. The second, that we make application of our knowledge, to give ourselves repose and contentment, and not distaste or repining. The third, that we do not presume by the contemplation of nature to attain to the mysteries of God. For as touching the first of these, Solomon doth excellently expound himself in another place of the same book, where he saith; "I "saw well that knowledge recedeth as far from igno-"rance, as light doth from darkness; and that the wise "man's eyes keep watch in his head, whereas the fool "roundeth about in darkness: but withal I learned, "that the same mortality involveth them both." And for the second, certain it is, there is no vexation or anxiety of mind which resulteth from knowledge, otherwise than merely by accident; for all knowledge, and wonder (which is the seed of knowledge) is an impression of pleasure in itself: but when men fall to framing conclusions out of their knowledge, applying it to their particular, and ministering to themselves thereby weak fears or vast desires, there groweth that carefulness and trouble of mind which is spoken of: for then knowledge is no more.

"Lumen siccum," whereof Heraclitus the profound said, "Lumen siccum optima anima;" but it becometh "Lumen madidum, or maceratum," being steeped and infused in the humours of the affections. And as for the third point, it deserveth to be a little stood upon, and not to be lightly passed over: for if any man shall think by view and inquiry into these sensible and material things to attain that light, whereby he may reveal unto himself the nature or will of God, then indeed is he spoiled by vain philosophy: for the contemplation of God's creatures and works produceth (having regard to the works and creatures themselves) knowledge; but having regard to God, no perfect knowledge, but wonder, which is broken knowledge. And therefore it was most aptly said by one of Plato's school,—"That "the sense of man carrieth a resemblance with the "sun, which, as we see, openeth and revealeth all the "terrestrial globe; but then again it obscureth and "concealeth the stars and celestial globe: so doth the "sense discover natural things, but it darkeneth and "shutteth up divine." And hence it is true, that it hath proceeded, that divers great learned men have been heretical, whilst they have sought to fly up to the secrets of the Deity by the waxen wings of the senses. And as for the conceit that too much knowledge should incline a man to atheism, and that the ignorance of second causes should make a more devout dependence upon God which is the first cause; First, it is good to ask the question which Job asked of his friends: "Will you lie for God, as one man

"will do for another, to gratify him?" For certain it is that God worketh nothing in nature but by second causes; and if they would have it otherwise believed, it is mere imposture, as it were in favour towards God; and nothing else but to offer to the Author of truth the unclean sacrifice of a lie. But farther, it is an assured truth, and a conclusion of experience, that a little or superficial knowledge of philosophy may incline the mind of man to atheism, but a farther proceeding therein doth bring the mind back again to religion; for in the entrance of philosophy, when the second causes, which are next unto the senses, do offer themselves to the mind of man, if it dwell and stay there, it may induce some oblivion of the highest cause; but when a man passeth on farther, and seeth the dependence of causes, and the works of Providence; then, according to the allegory of the poets, he will easily believe that the highest link of nature's chain must needs be tied to the foot of Jupiter's chair. To conclude therefore, let no man, upon a weak conceit of sobriety, or an ill-applied moderation, think or maintain, that a man can search too far, or be too well studied in the book of God's word, or in the book of God's works; divinity or philosophy; but rather let men endeavour an endless progress or proficience in both; only let men beware that they apply both to charity, and not to swelling; to use, and not to ostentation; and again, that they do not unwisely mingle or confound these learnings together.

And as for the disgraces which learning receiveth from politicians, they be of this nature; that learning doth soften men's minds, and makes them more unapt for the honour and exercise of arms; that it doth mar and pervert men's dispositions for matter of government and policy; in making them too curious and irresolute by variety of reading; or too peremptory or positive by strictness of rules and axioms; or too immoderate and overweening by reason of the greatness of examples; or too incompatible and differing from the times, by reason of the dissimilitude of examples; or at least, that it doth divert men's travails from action and business, and bringeth them to a love of leisure and privateness; and that it doth bring into states a relaxation of discipline, whilst every man is more ready to argue, than to obey and execute. Out of this conceit, Cato, surnamed the Censor, one of the wisest men indeed that ever lived, when Carneades the philosopher came in embassage to Rome, and that the young men of Rome began to flock about him, being allured with the sweetness and majesty of his eloquence and learning, gave counsel in open senate, that they should give him his dispatch with all speed, lest he should infect and inchant the minds and affections of the youth, and at unawares bring in an alteration of the manners and customs of the state. Out of the same conceit, or humour, did Virgil, turning his pen to the advantage of his country, and the disadvantage of his own profession, make a kind of separation between policy and go-

vernment, and between arts and sciences, in the verses so much renowned, attributing and challenging the one to the Romans, and leaving and yielding the other to the Grecians; "Tu regere imperio populos, Romane, memento, Hæ tibi erunt artes, &c." So likewise we see that Anytus, the accuser of Socrates, laid it as an article of charge and accusation against him, that he did, with the variety and power of his discourses and disputations, withdraw young men from due reverence to the laws and customs of their country; and that he did profess a dangerous and pernicious science, which was, to make the worse matter seem the better, and to suppress truth by force of eloquence and speech.

But these, and the like imputations, have rather a countenance of gravity, than any ground of justice: for experience doth warrant, that both in persons and in times, there hath been a meeting and concurrence in learning and arms, flourishing and excelling in the same men and the same ages. For, as for men, there cannot be a better, nor the like instance, as of that pair, Alexander the Great and Julius Cæsar the dictator; whereof the one was Aristotle's scholar in philosophy, and the other was Cicero's rival in eloquence: or if any man had rather call for scholars that were great generals, than generals that were great scholars, let him take Epaminondas the Theban, or Xenophon the Athenian; whereof the one was the first that abated the power of Sparta, and the other was the first that made way to the overthrow of the monarchy

of Persia. And this concurrence is yet more visible in times than in persons, by how much an age is a greater object than a man. For both in Ægypt, Assyria, Persia, Græcia, and Rome, the same times that are most renowned for arms, are likewise most admired for learning; so that the greatest authors and philosophers, and the greatest captains and governors, have lived in the same ages. Neither can it otherwise be: for as, in man, the ripeness of strength of the body and mind cometh much about an age, save that the strength of the body cometh somewhat the more early; so in states, arms and learning, whereof the one correspondeth to the body, the other to the soul of man, have a concurrence or near sequence in times.

And for matter of policy and government, that learning should rather hurt, than enable thereunto, is a thing very improbable: we see it is accounted an error to commit a natural body to empiric physicians, which commonly have a few pleasing receits, whereupon they are confident and adventurous, but know neither the causes of diseases, nor the complexions of patients, nor peril of accidents, nor the true method of cures: we see it is a like error to rely upon advocates or lawyers, which are only men of practice, and not grounded in their books, who are many times easily surprised, when matter falleth out besides their experience, to the prejudice of the causes they handle: so, by like reason, it cannot be but a matter of doubtful con-

sequence, if states be managed by empiric statesmen, not well mingled with men grounded in learning. But contrariwise, it is almost without instance contradictory, that ever any government was disastrous that was in the hands of learned governors. For howsoever it hath been ordinary with politic men to extenuate and disable learned men by the names of pedants; yet in the records of time it appeareth, in many particulars, that the governments of princes in minority (notwithstanding the infinite disadvantage of that kind of state) have nevertheless excelled the government of princes of mature age, even for that reason which they seek to traduce, which is, that by that occasion the state hath been in the hands of pedants: for so was the state of Rome for the first five years, which are so much magnified, during the minority of Nero, in the hands of Seneca, a pedant: so it was again, for ten years' space or more, during the minority of Gordianus the younger, with great applause and contentation in the hands of Misitheus, a pedant: so was it before that, in the minority of Alexander Severus, in like happiness, in hands not much unlike, by reason of the rule of the women, who were aided by the teachers and preceptors. Nay, let a man look into the government of the bishops of Rome, as by name, into the government of Pius Quintus, and Sextus Quintus, in our times, who were both at their entrance esteemed but as pedantical friars, and he shall find that such popes do greater things, and proceed upon truer principles of estate,

than those which have ascended to the papacy from an education and breeding in affairs of estate and courts of princes; for although men bred in learning are perhaps to seek in points of convenience, and accommodating for the present, which the Italians call "ragioni di stato," whereof the same Pius Quintus could not hear spoken with patience, terming them inventions against religion and the moral virtues; yet on the other side, to recompense that, they are perfect in those same plain grounds of religion, justice, honour, and moral virtue, which if they be well and watchfully pursued, there will be seldom use of those other, no more than of physic in a sound or well-dieted body. Neither can the experience of one man's life furnish examples and precedents for the events of one man's life: for, as it happeneth sometimes that the grandchild, or other descendant, resembleth the ancestor more than the son; so many times occurrences of present times may sort better with ancient examples, than with those of the latter or immediate times: and lastly, the wit of one man can no more countervail learning, than one man's means can hold way with a common purse.

And as for those particular seducements, or indispositions of the mind for policy and government, which learning is pretended to insinuate; if it be granted that any such thing be, it must be remembered withal, that learning ministereth in every of them greater strength of medicine or remedy, than it offereth cause of indisposition or infirmity; for if, by a secret operation, it make men perplexed and

irresolute, on the other side, by plain precept, it teacheth them when and upon what ground to resolve; yea, and how to carry things in suspense without prejudice, till they resolve; if it make men positive and regular, it teacheth them what things are in their nature demonstrative, and what are conjectural; and as well the use of distinctions and exceptions, as the latitude of principles and rules. If it mislead by disproportion, or dissimilitude of examples, it teacheth men the force of circumstances, the errors of comparisons, and all the cautions of application; so that in all these it doth rectify more effectually than it can pervert. And these medicines it conveyeth into men's minds much more forcibly by the quickness and penetration of examples. For let a man look into the errors of Clement the seventh, so livelily described by Guicciardine, who served under him, or into the errors of Cicero, painted out by his own pencil in his epistles to Atticus, and he will fly apace from being irresolute. Let him look into the errors of Phocion, and he will beware how he be obstinate or inflexible. Let him but read the fable of Ixion, and it will hold him from being vaporous or imaginative. Let him look into the errors of Cato the second, and he will never be one of the Antipodes, to tread opposite to the present world.

And for the conceit, that learning should dispose men to leisure and privateness, and make men slothful; it were a strange thing if that, which accustometh the mind to a perpetual motion and agitation, should induce slothfulness; whereas contrariwise it

may be truly affirmed, that no kind of men love business for itself, but those that are learned; for other persons love it for profit, as an hireling, that loves the work for the wages; or for honour, as because it beareth them up in the eyes of men, and refresheth their reputation, which otherwise would wear; or because it putteth them in mind of their fortune, and giveth them occasion to pleasure and displeasure; or because it exerciseth some faculty wherein they take pride, and so entertaineth them in good humour and pleasing conceits toward themselves; or because it advanceth any other their ends. So that, as it is said of untrue valours, that some men's valours are in the eyes of them that look on; so such men's industries are in the eyes of others, or at least in regard of their own designments: only learned men love business, as an action according to nature, as agreeable to health of mind, as exercise is to health of body, taking pleasure in the action itself, and not in the purchase: so that of all men they are the most indefatigable, if it be towards any business which can hold or detain their mind.

And if any man be laborious in reading and study, and yet idle in business and action, it groweth from some weakness of body, or softness of spirit; such as Seneca speaketh of: "Quidam tam sunt um-"bratiles, ut putent in turbido esse quicquid in luce "est;" and not of learning: well may it be, that such a point of a man's nature may make him give himself to learning, but it is not learning that breedeth any such point in his nature.

And that learning should take up too much time or leisure: I answer; the most active or busy man that hath been or can be, hath, no question, many vacant times of leisure, while he expecteth the tides and returns of business (except he be either tedious and of no dispatch, or lightly and unworthily ambitious to meddle in things that may be better done by others:) and then the question is, but how those spaces and times of leisure shall be filled and spent; whether in pleasures or in studies; as was well answered by Demosthenes to his adversary Æschines, that was a man given to pleasure, and told him, that his orations did smell of the lamp: "Indeed," said Demosthenes, "there is a great difference between "the things that you and I do by lamp-light." So as no man need doubt that learning will expulse business; but rather it will keep and defend the possession of the mind against idleness and pleasure, which otherwise at unawares may enter, to the prejudice of both.

Again, for that other conceit, that learning should undermine the reverence of laws and government, it is assuredly a mere depravation and calumny, without all shadow of truth. For to say, that a blind custom of obedience should be a surer obligation than duty taught and understood; it is to affirm, that a blind man may tread surer by a guide than a seeing man can by a light. And it is without all controversy, that learning doth make the minds of men gentle, generous, maniable and pliant to government; whereas ignorance makes them

churlish, thwarting, and mutinous: and the evidence of time doth clear this assertion, considering that the most barbarous, rude, and unlearned times have been most subject to tumults, seditions, and changes.

And as to the judgment of Cato the Censor, he was well punished for his blasphemy against learning, in the same kind wherein he offended; for when he was past threescore years old, he was taken with an extreme desire to go to school again, and to learn the Greek tongue, to the end to peruse the Greek authors; which doth well demonstrate, that his former censure of the Grecian learning was rather an affected gravity, than according to the inward sense of his own opinion. And as for Virgil's verses, though it pleased him to brave the world in taking to the Romans the art of empire, and leaving to others the arts of subjects; yet so much is manifest, that the Romans never ascended to that height of empire, till the time they had ascended to the height of other arts. For in the time of the two first Cæsars, which had the art of government in greatest perfection, there lived the best poet, Virgilius Maro; the best historiographer, Titus Livius; the best antiquary, Marcus Varro; and the best, or second orator, Marcus Cicero, that to the memory of man are known. As for the accusation of Socrates, the time must be remembered when it was prosecuted; which was under the thirty tyrants, the most base, bloody, and envious persons that have governed; which revolution of state was no sooner over, but

Socrates, whom they had made a person criminal, was made a person heroical, and his memory accumulate with honours divine and human; and those discourses of his, which were then termed corrupting of manners, were after acknowledged for sovereign medicines of the mind and manners, and so have been received ever since till this day. Let this therefore serve for answer to politicians, which in their humorous severity, or in their feigned gravity, have presumed to throw imputations upon learning; which redargution, nevertheless, (save that we know not whether our labours may extend to other ages) were not needful for the present, in regard of the love and reverence towards learning, which the example and countenance of two so learned princes, queen Elizabeth, and your majesty, being as Castor and Pollux, "lucida sidera," stars of excellent light and most benign influence, hath wrought in all men of place and authority in our nation.

Now therefore we come to that third sort of discredit or diminution of credit, that groweth unto learning from learned men themselves, which commonly cleaveth fastest: it is either from their fortune; or from their manners; or from the nature of their studies. For the first, it is not in their power; and the second is accidental; the third only is proper to be handled: but because we are not in hand with true measure, but with popular estimation and conceit, it is not amiss to speak somewhat of the two former. The derogations therefore, which grow to learning from the fortune or condition of learned men, are

either in respect of scarcity of means, or in respect of privateness of life, and meanness of employments.

Concerning want, and that it is the case of learned men usually to begin with little, and not to grow rich so fast as other men, by reason they convert not their labours chiefly to lucre and increase: it were good to leave the common place in commendation of poverty to some friar to handle, to whom much was attributed by Machiavel in this point; when he said, "That the kingdom of the "clergy had been long before at an end, if the repu-"tation and reverence towards the poverty of friars "had not borne out the scandal of the superfluities "and excesses of bishops and prelates." So a man might say, that the felicity and delicacy of princes and great persons had long since turned to rudeness and barbarism, if the poverty of learning had not kept up civility and honour of life: but without any such advantages, it is worthy the observation, what a reverend and honoured thing poverty of fortune was, for some ages, in the Roman state, which nevertheless was a state without paradoxes: for we see what Titus Livius saith in his introduction: "Cæterum aut me amor negotii suscepti fal-"lit aut nulla unquam respublica nec major, nec sanc-"tior, nec bonis exemplis ditior fuit; nec in quam "tam seræ avaritia luxuriaque immigraverint; nec "ubi tantus ac tam diu paupertati ac parsimoniæ "honos fuerit." We see likewise, after that the state of Rome was not itself, but did degenerate, how that person, that took upon him to be counsellor to

Julius Cæsar after his victory, where to begin his restoration of the state, maketh it of all points the most summary to take away the estimation of wealth: "Verum hæc, et omnia mala pariter cum "honore pecuniæ desinent: si neque magistratus, "neque alia vulgo cupienda, venalia erunt." To conclude this point, as it was truly said, that "rubor "est virtutis color," though sometime it come from vice; so it may be fitly said that "paupertas est "virtutis fortuna," though sometime it may proceed from misgovernment and accident. Surely Solomon hath pronounced it both in censure, "Qui festi-"nat ad divitias non erit insons;" and in precept; "Buy the truth, and sell it not;" and so of wisdom and knowledge; judging that means were to be spent upon learning, and not learning to be applied to means. And as for the privateness, or obscureness (as it may be in vulgar estimation accounted) of life of contemplative men; it is a theme so common, to extol a private life not taxed with sensuality and sloth, in comparison and to the disadvantage of a civil life, for safety, liberty, pleasure, and dignity, or at least freedom from indignity, as no man handleth it, but handleth it well: such a consonancy it hath to men's conceits in the expressing, and to men's consents in the allowing. This only I will add, that learned men forgotten in states, and not living in the eyes of men, are like the images of Cassius and Brutus in the funeral of Junia: of which not being represented, as many others were, Tacitus saith, "Eo ipso præfulgebant, quod non visebantur."

And for meanness of employment, that which is most traduced to contempt is that the government of youth is commonly allotted to them; which age, because it is the age of least authority, it is transferred to the disesteeming of those employments wherein youth is conversant, and which are conversant about youth. But how unjust this traducement is (if you will reduce things from popularity of opinion to measure of reason) may appear in that, we see men are more curious what they put into a new vessel, than into a vessel seasoned; and what mould they lay about a young plant, than about a plant corroborate; so as the weakest terms and times of all things use to have the best applications and helps. And will you hearken to the Hebrew Rabbins? "Your young men shall see visions, and your old "men shall dream dreams;" say the youth is the worthier age, for that visions are nearer apparitions of God than dreams. And let it be noted, that howsoever the condition of life of pedants hath been scorned upon theatres, as the ape of tyranny; and that the modern looseness or negligence hath taken no due regard to the choice of school-masters and tutors; yet the ancient wisdom of the best times did always make a just complaint, that states were too busy with their laws, and too negligent in point of education: which excellent part of ancient discipline hath been in some sort revived of late times by the colleges of the Jesuits; of whom, although in regard of their superstition I may say, "quo meli-"ores, eo deteriores;" yet in regard of this, and some

other points concerning human learning and moral matters, I may say, as Agesilaus said to his enemy Pharnabaus, "talis quum sis, utinam noster esses." And thus much touching the discredits drawn from the fortunes of learned men.

As touching the manners of learned men, it is a thing personal and individual: and no doubt there be amongst them, as in other professions, of all temperatures: but yet so as it is not without truth, which is said, that "abeunt studia in mores," studies have an influence and operation upon the manners of those that are conversant in them.

But upon an attentive and indifferent review, I for my part cannot find any disgrace to learning can proceed from the manners of learned men not inherent to them as they are learned; except it be a fault (which was the supposed fault of Demosthenes, Cicero, Cato the second, Seneca, and many more) that, because the times they read of are commonly better than the times they live in, and the duties taught better than the duties practised, they contend sometimes too far to bring things to perfection, and to reduce the corruption of manners to honesty of precepts, or examples of too great height. And yet hereof they have caveats enough in their own walks. For Solon, when he was asked whether he had given his citizens the best laws, answered wisely, "Yea, of "such as they would receive:" and Plato, finding that his own heart could not agree with the corrupt manners of his country, refused to bear place or office; saying, "That a man's country was to be

" used as his parents were, that is, with humble per-
" suasions, and not with contestations." And Cæsar's counsellor put in the same caveat, " Non ad vetera
" instituta revocans quæ jampridem corruptis moribus
" ludibrio sunt :" and Cicero noteth this error directly in Cato the second, when he writes to his friend Atticus; " Cato optime sentit, sed nocet interdum
" reipublicæ; loquitur enim tanquam in republica
" Platonis, non tanquam in fæce Romuli." And the same Cicero doth excuse and expound the philosophers for going too far, and being too exact in their prescripts, when he saith, " Isti ipsi præceptores
" virtutis et magistri, videntur fines officiorum paulo
" longius quam natura vellet protulisse, ut cum ad
" ultimum animo contendissemus, ibi tamen, ubi opor-
" tet, consisteremus :" and yet himself might have said, " Monitis sum minor ipse meis ;" for it was his own fault, though not in so extreme a degree.

Another fault likewise much of this kind hath been incident to learned men; which is, that they have esteemed the preservation, good and honour of their countries or masters before their own fortunes or safeties. For so saith Demosthenes unto the Athenians: " If it please you to note it, my counsels
" unto you are not such whereby I should grow great
" amongst you, and you become little amongst the
" Grecians: but they be of that nature, as they are
" sometimes not good for me to give, but are always
" good for you to follow." And so Seneca, after he had consecrated that Quinquennium Neronis to the eternal glory of learned governors, held on his honest

and loyal course of good and free counsel, after his master grew extremely corrupt in his government. Neither can this point otherwise be; for learning endueth men's minds with a true sense of the frailty of their persons, the casualty of their fortunes, and the dignity of their soul and vocation: so that it is impossible for them to esteem that any greatness of their own fortune can be a true or worthy end of their being and ordainment; and therefore are desirous to give their account to God, and so likewise to their masters under God (as kings and the states that they serve) in these words; "Ecce tibi lucre-"feci," and not "Ecce mihi lucrefeci:" whereas the corrupter sort of mere politicians, that have not their thoughts established by learning in the love and apprehension of duty, nor ever look abroad into universality, do refer all things to themselves, and thrust themselves into the centre of the world, as if all lines should meet in them and their fortunes; never caring, in all tempests, what becomes of the ship of state, so they may save themselves in the cockboat of their own fortune: whereas men that feel the weight of duty, and know the limits of self-love, use to make good their places and duties, though with peril; and if they stand in seditious and violent alterations, it is rather the reverence which many times both adverse parts do give to honesty, than any versatile advantage of their own carriage. But for this point of tender sense, and fast obligation of duty, which learning doth endue the mind withal, howsoever fortune may tax it, and many in

the depth of their corrupt principles may despise it, yet it will receive an open allowance, and therefore, needs the less disproof or excusation.

Another fault incident commonly to learned men, which may be more probably defended than truly denied, is, that they fail sometimes in applying themselves to particular persons: which want of exact application ariseth from two causes; the one, because the largeness of their mind can hardly confine itself to dwell in the exquisite observation or examination of the nature and customs of one person: for it is a speech for a lover, and not for a wise man: "Satis magnum alter alteri theatrum sumus." Nevertheless I shall yield, that he that cannot contract the sight of his mind, as well as disperse and dilate it, wanteth a great faculty. But there is a second cause, which is no inability, but a rejection upon choice and judgment; for the honest and just bounds of observation, by one person upon another, extend no farther but to understand him sufficiently, whereby not to give him offence, or whereby to be able to give him faithful counsel, or whereby to stand upon reasonable guard and caution in respect of a man's self: but to be speculative into another man, to the end to know how to work him or wind him or govern him, proceedeth from a heart that is double and cloven, and not entire and ingenuous; which as in friendship it is want of integrity, so towards princes or superiors is want of duty. For the custom of the Levant, which is, that subjects do forbear to gaze or fix their eyes upon princes, is in

the outward ceremony barbarous, but the moral is good: for men ought not by cunning and bent observations to pierce and penetrate into the hearts of kings, which the Scripture hath declared to be inscrutable.

There is yet another fault (with which I will conclude this part) which is often noted in learned men, that they do many times fail to observe decency and discretion in their behaviour and carriage, and commit errors in small and ordinary points of action, so as the vulgar sort of capacities do make a judgment of them in greater matters by that which they find wanting in them in smaller. But this consequence doth often deceive men, for which I do refer them over to that which was said by Themistocles, arrogantly and uncivilly being applied to himself out of his own mouth; but, being applied to the general state of this question, pertinently and justly; when, being invited to touch a lute, he said, "he could not "fiddle, but he could make a small town a great "state." So, no doubt, many may be well seen in the passages of government and policy, which are to seek in little and punctual occasions. I refer them also to that which Plato said of his master Socrates, whom he compared to the gallypots of apothecaries, which on the outside had apes and owls and antiques, but contained within sovereign and precious liquors and confections; acknowledging that to an external report he was not without superficial levities and deformities, but was inwardly replenished with excellent virtues and powers. And

so much touching the point of manners of learned men.

But in the mean time I have no purpose to give allowance to some conditions and courses base and unworthy, wherein divers professors of learning have wronged themselves, and gone too far; such as were those trencher philosophers, which in the later age of the Roman state were usually in the houses of great persons, being little better than solemn parasites; of which kind, Lucian maketh a merry description of the philosopher that the great lady took to ride with her in her coach, and would needs have him carry her little dog, which he doing officiously and yet uncomely, the page scoffed, and said, "That he doubted, the philosopher of a "Stoic would turn to be a Cynic." But above all the rest, the gross and palpable flattery, whereunto many not unlearned have abased and abused their wits and pens, turning, as Du Bartas saith, Hecuba into Helena, and Faustina into Lucretia, hath most diminished the price and estimation of learning. Neither is the modern dedication of books and writings, as to patrons, to be commended: for that books, such as are worthy the name of books, ought to have no patrons but truth and reason. And the ancient custom was to dedicate them only to private and equal friends, or to intitle the books with their names; or if to kings and great persons, it was to some such as the argument of the book was fit and proper for: but these and the like courses may deserve rather reprehension than defence.

Not that I can tax or condemn the morigeration or application of learned men to men in fortune. For the answer was good that Diogenes made to one that asked him in mockery, "How it came to "pass that philosophers were the followers of rich "men, and not rich men of philosophers?" He answered soberly, and yet sharply, "Because the "one sort knew what they had need of, and the other "did not." And of the like nature was the answer which Aristippus made, when having a petition to Dionysius, and no ear given to him, he fell down at his feet; whereupon Dionysius staid, and gave him the hearing, and granted it; and afterward some person, tender on the behalf of philosophy, reproved Aristippus, that he would offer the profession of philosophy such an indignity, as for a private suit to fall at a tyrant's feet: but he answered, "It "was not his fault, but it was the fault of Dionysius, "that had his ears in his feet." Neither was it accounted weakness, but discretion in him that would not dispute his best with Adrianus Cæsar; excusing himself, "That it was reason to yield to "him that commanded thirty legions." These and the like applications, and stooping to points of necessity and convenience, cannot be disallowed; for though they may have some outward baseness, yet in a judgment truly made, they are to be accounted submissions to the occasion, and not to the person.

Now I proceed to those errors and vanities which have intervened amongst the studies them-

selves of the learned, which is that which is principal and proper to the present argument; wherein my purpose is not to make a justification of the errors, but, by a censure and separation of the errors, to make a justification of that which is good and sound, and to deliver that from the aspersion of the other. For we see, that it is the manner of men to scandalize and deprave that which retaineth the state and virtue, by taking advantage upon that which is corrupt and degenerate: as the heathens in the primitive church used to blemish and taint the Christians with the faults and corruptions of heretics. But nevertheless I have no meaning at this time to make any exact animadversion of the errors and impediments in matters of learning, which are more secret and remote from vulgar opinion, but only to speak unto such as do fall under or near unto a popular observation.

There be therefore chiefly three vanities in studies, whereby learning hath been most traduced. For those things we do esteem vain, which are either false or frivolous, those which either have no truth, or no use: and those persons we esteem vain, which are either credulous or curious; and curiosity is either in matter or words: so that in reason, as well as in experience, there fall out to be these three distempers, as I may term them, of learning; the first, fantastical learning; the second, contentious learning; and the last, delicate learning; vain imaginations, vain altercations, and vain affectations; and with the last I will begin. Martin Luther con-

ducted no doubt by an higher Providence, but in discourse of reason, finding what a province he had undertaken against the Bishop of Rome and the degenerate traditions of the church, and finding his own solitude, being no ways aided by the opinions of his own time, was enforced to awake all antiquity, and to call former times to his succour, to make a party against the present time. So that the ancient authors, both in divinity and in humanity, which had long time slept in libraries, began generally to be read and revolved. This by consequence did draw on a necessity of a more exquisite travail in the languages original, wherein those authors did write, for the better understanding of those authors, and the better advantage of pressing and applying their words. And thereof grew again a delight in their manner of style and phrase, and an admiration of that kind of writing; which was much furthered and precipitated by the enmity and opposition that the propounders of those primitive, but seeming new opinions, had against the schoolmen; who were generally of the contrary part, and whose writings were altogether in a differing style and form; taking liberty to coin and frame new terms of art to express their own sense, and to avoid circuit of speech, without regard to the pureness, pleasantness, and, as I may call it, lawfulness of the phrase or word. And again, because the great labour that then was with the people, (of whom the Pharisees were wont to say, "Execrabilis ista turba, quæ non novit legem"), for the winning and persuading of them, there grew

of necessity in chief price and request eloquence and variety of discourse, as the fittest and forciblest access into the capacity of the vulgar sort; so that these four causes concurring, the admiration of ancient authors, the hate of the schoolmen, the exact study of languages, and the efficacy of preaching, did bring in an affectionate study of eloquence and "copia" of speech, which then began to flourish. This grew speedily to an excess; for men began to hunt more after words than matter; and more after the choiceness of the phrase, and the round and clean composition of the sentence, and the sweet falling of the clauses, and the varying and illustration of their works with tropes and figures, than after the weight of matter, worth of subject, soundness of argument, life of invention, or depth of judgment. Then grew the flowing and watery vein of Osorius, the Portugal bishop, to be in price. Then did Sturmius spend such infinite and curious pains upon Cicero the orator, and Hermogenes the rhetorician, besides his own books of periods, and imitation, and the like. Then did Car of Cambridge, and Ascham, with their lectures and writings, almost deify Cicero and Demosthenes, and allure all young men, that were studious, unto that delicate and polished kind of learning. Then did Erasmus take occasion to make the scoffing echo; "Decem annos consumpsi in legendo Cicerone:" and the "echo answered in Greek, Ὄνε, "Asine." Then grew the learning of the schoolmen to be utterly despised as barbarous. In sum, the whole inclination and

bent of those times was rather towards "copia" than weight.

Here therefore, is the first distemper of learning, when men study words, and not matter: whereof though I have represented an example of late times, yet it hath been, and will be "secundum majus et "minus" in all time. And how is it possible but this should have an operation to discredit learning, even with vulgar capacities, when they see learned men's works like the first letter of a patent or limned book; which though it hath large flourishes, yet it is but a letter? It seems to me that Pygmalion's frenzy is a good emblem or portraiture of this vanity: for words are but the images of matter; and except they have life of reason and invention, to fall in love with them is all one as to fall in love with a picture.

But yet, notwithstanding, it is a thing not hastily to be condemned, to clothe and adorn the obscurity, even of philosophy itself, with sensible and plausible elocution; for hereof we have great examples in Xenophon, Cicero, Seneca, Plutarch, and of Plato also in some degree; and hereof likewise there is great use: for surely, to the severe inquisition of truth, and the deep progress into philosophy, it is some hinderance; because it is too early satisfactory to the mind of man, and quencheth the desire of further search, before we come to a just period: but then if a man be to have any use of such knowledge in civil occasions, of conference, counsel, persuasion, discourse, or the like; then shall he find it prepared to his hands in those authors which write

in that manner. But the excess of this is so justly contemptible, that as Hercules, when he saw the image of Adonis, Venus' minion, in a temple, said in disdain, "Nil sacri es;" so there is none of Hercules' followers in learning, that is, the more severe and laborious sort of inquirers into truth, but will despise those delicacies and affectations, as indeed capable of no divineness. And thus much of the first disease or distemper of learning.

The second, which followeth, is in nature worse than the former: for as substance of matter is better than beauty of words, so, contrariwise, vain matter is worse than vain words: wherein it seemeth the reprehension of St. Paul was not only proper for those times, but prophetical for the times following; and not only respective to divinity, but extensive to all knowledge: "Devita profanas vocum "novitates, et oppositiones falsi nominis scientiæ." For he assigneth two marks and badges of suspected and falsified science: the one, the novelty and strangeness of terms; the other, the strictness of positions, which of necessity doth induce oppositions, and so questions and altercations. Surely, like as many substances in nature, which are solid, do putrify and corrupt into worms; so it is the property of good and sound knowledge, to putrify and dissolve into a number of subtle, idle, unwholesome, and, as I may term them, vermiculate questions, which have indeed a kind of quickness, and life of spirit, but no soundness of matter, or goodness of quality. This kind of degenerate learning did chiefly reign amongst the schoolmen; who having

sharp and strong wits, and abundance of leisure, and small variety of reading, (but their wits being shut up in the cells of a few authors, chiefly Aristotle their dictator, as their persons were shut up in the cells of monasteries and colleges,) and knowing little history, either of nature or time, did, out of no great quantity of matter, and infinite agitation of wit, spin out unto us those laborious webs of learning, which are extant in their books. For the wit and mind of man, if it work upon matter, which is the contemplation of the creatures of God, worketh according to the stuff, and is limited thereby; but if it work upon itself, as the spider worketh his web, then it is endless, and brings forth indeed cobwebs of learning, admirable for the fineness of thread and work, but of no substance or profit.

This same unprofitable subtilty or curiosity is of two sorts; either in the subject itself that they handle, when it is a fruitless speculation or controversy, whereof there are no small number both in divinity and philosophy, or in the manner or method of handling of a knowledge, which amongst them was this; upon every particular position or assertion to frame objections, and to those objections, solutions; which solutions were for the most part not confutations, but distinctions; whereas indeed the strength of all sciences is, as the strength of the old man's faggot, in the band. For the harmony of a science, supporting each part the other, is and ought to be the true and brief confutation

and suppression of all the smaller sort of objections. But, on the other side, if you take out every axiom, as the sticks of the faggot, one by one, you may quarrel with them, and bend them, and break them at your pleasure: so that, as was said of Seneca, "Verborum minutiis rerum frangit pondera;" so a man may truly say of the schoolmen, "Quæstionum "minutiis, scientiarum frangunt soliditatem." For were it not better for a man in a fair room to set up one great light, or branching candlestick of lights, than to go about with a small watch candle into every corner? And such is their method, that rests not so much upon evidence of truth proved by arguments, authorities, similitudes, examples, as upon particular confutations and solutions of every scruple, cavillation, and objection; breeding for the most part one question, as fast as it solveth another; even as in the former resemblance, when you carry the light into one corner, you darken the rest: so that the fable and fiction of Scylla seemeth to be a lively image of this kind of philosophy or knowledge; who was transformed into a comely virgin for the upper parts; but then "Candida succinctam "latrantibus inguina monstris:" so the generalities of the schoolmen are for a while good and proportionable; but then, when you descend into their distinctions and decisions, instead of a fruitful womb, for the use and benefit of man's life, they end in monstrous altercations and barking questions. So as it is not possible but this quality of knowledge must fall under popular contempt, the people being apt

to contemn truth upon occasion of controversies and altercations, and to think they are all out of their way which never meet: and when they see such digladiation about subtilties, and matters of no use or moment, they easily fall upon that judgment of Dionysius of Syracuse, "Verba ista sunt senum "otiosorum."

Notwithstanding, certain it is that if those schoolmen, to their great thirst of truth and unwearied travail of wit, had joined variety and universality of reading and contemplation, they had proved excellent lights, to the great advancement of all learning and knowledge; but as they are, they are great undertakers indeed, and fierce with dark keeping: but as in the inquiry of the divine truth, their pride inclined to leave the oracle of God's word, and to vanish in the mixture of their own inventions; so in the inquisition of nature, they ever left the oracle of God's works, and adored the deceiving and deformed images, which the unequal mirror of their own minds, or a few received authors or principles, did represent unto them. And thus much for the second disease of learning.

For the third vice or disease of learning, which concerneth deceit or untruth, it is of all the rest the foulest; as that which doth destroy the essential form of knowledge, which is nothing but a representation of truth: for the truth of being and the truth of knowing are one, differing no more than the direct beam and the beam reflected. This vice therefore brancheth itself into two sorts; delight in

deceiving, and aptness to be deceived; imposture and credulity; which, although they appear to be of a diverse nature, the one seeming to proceed of cunning, and the other of simplicity, yet certainly they do for the most part concur: for, as the verse noteth,

"Percontatorem fugito, nam garrulus idem est,"

an inquisitive man is a prattler; so, upon the like reason, a credulous man is a deceiver: as we see it in fame, that he that will easily believe rumours, will as easily augment rumours, and add somewhat to them of his own; which Tacitus wisely noteth, when he saith, "Fingunt simul creduntque:" so great an affinity hath fiction and belief.

This facility of credit, and accepting or admitting things weakly authorized or warranted, is of two kinds, according to the subject: for it is either a belief of history, or, as the lawyers speak, matter of fact; or else of matter of art and opinion. As to the former, we see the experience and inconvenience of this error in ecclesiastical history; which hath too easily received and registered reports and narrations of miracles wrought by martyrs, hermits, or monks of the desert, and other holy men, and their relics, shrines, chapels, and images: which though they had a passage for a time, by the ignorance of the people, the superstitious simplicity of some, and the politic toleration of others holding them but as divine poesies; yet after a period of time, when the mist began to clear up, they grew to be esteemed but as old wives' fables, impostures of the clergy, illusions

of spirits, and badges of antichrist, to the great scandal and detriment of religion.

So in natural history, we see there hath not been that choice and judgment used as ought to have been; as may appear in the writings of Plinius, Cardanus, Albertus, and divers of the Arabians, being fraught with much fabulous matter, a great part not only untried, but notoriously untrue, to the great derogation of the credit of natural philosophy with the grave and sober kind of wits: wherein the wisdom and integrity of Aristotle is worthy to be observed; that, having made so diligent and exquisite a history of living creatures, hath mingled it sparingly with any vain or feigned matter: and yet, on the other side, hath cast all prodigious narrations, which he thought worthy the recording, into one book: excellently discerning that matter of manifest truth, (such, whereupon observation and rule were to be built,) was not to be mingled or weakened with matter of doubtful credit; and yet again, that rarities and reports that seem incredible are not to be suppressed or denied to the memory of men.

And as for the facility of credit which is yielded to arts and opinions, it is likewise of two kinds; either when too much belief is attributed to the arts themselves, or to certain authors in any art. The sciences themselves, which have had better intelligence and confederacy with the imagination of man than with his reason, are three in number; astrology, natural magic, and alchemy; of which sciences, nevertheless, the ends or pretences are noble. For

astrology pretendeth to discover that correspondence or concatenation, which is between the superior globe and the inferior: natural magic pretendeth to call and reduce natural philosophy from variety of speculations to the magnitude of works: and alchemy pretendeth to make separation of all the unlike parts of bodies, which in mixtures of nature are incorporate. But the derivations and prosecutions to these ends, both in the theories and in the practices, are full of error and vanity; which the great professors themselves have sought to veil over and conceal by enigmatical writings, and referring themselves to auricular traditions and such other devices, to save the credit of impostures: and yet surely to alchemy this right is due, that it may be compared to the husbandman whereof Æsop makes the fable; that, when he died, told his sons, that he had left unto them gold buried under ground in his vineyard; and they digged over all the ground, and gold they found none; but by reason of their stirring and digging the mould about the roots of their vines, they had a great vintage the year following: so assuredly the search and stir to make gold hath brought to light a great number of good and fruitful inventions and experiments, as well for the disclosing of nature, as for the use of man's life.

And as for the overmuch credit that hath been given unto authors in sciences, in making them dictators, that their words should stand, and not consuls, to give advice; the damage is infinite that

sciences have received thereby, as the principal cause that hath kept them low, at a stay, without growth or advancement. For hence it hath come, that in arts mechanical the first deviser comes shortest, and time addeth and perfecteth; but in sciences the first author goeth farthest, and time leeseth and corrupteth. So, we see, artillery, sailing, printing, and the like, were grossly managed at the first, and by time accommodated and refined: but contrariwise, the philosophies and sciences of Aristotle, Plato, Democritus, Hippocrates, Euclides, Archimedes, of most vigour at the first, and by time degenerate and imbased; whereof the reason is no other, but that in the former many wits and industries have contributed in one; and in the latter many wits and industries have been spent about the wit of some one, whom many times they have rather depraved than illustrated. For as water will not ascend higher than the level of the first spring-head from whence it descendeth, so knowledge derived from Aristotle, and exempted from liberty of examination, will not rise again higher than the knowledge of Aristotle. And therefore, although the position be good, "Oportet "discentem credere," yet it must be coupled with this, "Oportet edoctum judicare;" for disciples do owe unto masters only a temporary belief, and a suspension of their own judgment until they be fully instructed, and not an absolute resignation, or perpetual captivity: and therefore, to conclude this point, I will say no more, but so let great authors have their due, as time, which is the author

of authors, be not deprived of his due, which is, further and further to discover truth.

Thus have I gone over these three diseases of learning; besides the which, there are some other rather peccant humours than formed diseases; which nevertheless are not so secret and intrinsic, but that they fall under a popular observation and traducement, and therefore are not to be passed over.

The first of these is the extreme affecting of two extremities; the one antiquity, the other novelty: wherein it seemeth the children of time do take after the nature and malice of the father. For as he devoureth his children, so one of them seeketh to devour and suppress the other; while antiquity envieth there should be new additions, and novelty cannot be content to add, but it must deface: surely, the advice of the prophet is the true direction in this matter, "State super vias antiquas, et videte quænam "sit via recta et bona, et ambulate in ea." Antiquity deserveth that reverence, that men should make a stand thereupon, and discover what is the best way; but when the discovery is well taken, then to make progression. And to speak truly, "Antiquitas "sæculi juventus mundi." These times are the ancient times, when the world is ancient, and not those which we account ancient "ordine retrogrado," by a computation backward from ourselves.

Another error, induced by the former, is a distrust that any thing should be now to be found out, which the world should have missed and passed over, so long time; as if the same objection were to be

made to time, that Lucian maketh to Jupiter and other the heathen gods; of which he wondereth that they begot so many children in old time, and begot none in his time; and asketh whether they were become septuagenary, or whether the law Papia, made against old men's marriages, had restrained them. So it seemeth men doubt lest time is become past children and generation; wherein, contrariwise, we see commonly the levity and inconstancy of men's judgments, which, till a matter be done, wonder that it can be done; and, as soon as it is done, wonder again that it was no sooner done: as we see in the expedition of Alexander into Asia, which at first was prejudged as a vast and impossible enterprise: and yet afterwards it pleaseth Livy to make no more of it than this: "Nil aliud quàm bene ausus vana "contemnere:" and the same happened to Columbus in the western navigation. But in intellectual matters it is much more common; as may be seen in most of the propositions of Euclid: which till they be demonstrate, they seem strange to our assent; but being demonstrate, our mind accepteth of them by a kind of relation, (as the lawyers speak,) as if we had known them before.

Another error, that hath also some affinity with the former, is a conceit that of former opinions or sects, after variety and examination, the best hath still prevailed, and suppressed the rest; so as, if a man should begin the labour of a new search, he were but like to light upon somewhat formerly rejected, and by rejection brought into oblivion: as

if the multitude, or the wisest, for the multitude's sake, were not ready to give passage rather to that which is popular and superficial, than to that which is substantial and profound; for the truth is, that time seemeth to be of the nature of a river or stream, which carrieth down to us that which is light and blown up, and sinketh and drowneth that which is weighty and solid.

Another error, of a diverse nature from all the former, is the over early and peremptory reduction of knowledge into arts and methods; from which time commonly sciences receive small or no augmentation. But as young men, when they knit and shape perfectly, do seldom grow to a further stature; so knowledge, while it is in aphorisms and observations, it is in growth; but when it once is comprehended in exact methods, it may perchance be further polished and illustrated, and accommodated for use and practice; but it increaseth no more in bulk and substance.

Another error which doth succeed that which we last mentioned, is, that after the distribution of particular arts and sciences, men have abandoned universality, or "philosophia prima;" which cannot but cease and stop all progression. For no perfect discovery can be made upon a flat or a level: neither is it possible to discover the more remote and deeper parts of any science, if you stand but upon the level of the same science, and ascend not to a higher science.

Another error hath proceeded from too great a

reverence, and a kind of adoration of the mind and understanding of man; by means whereof, men have withdrawn themselves too much from the contemplation of nature, and the observations of experience, and have tumbled up and down in their own reason and conceits. Upon these intellectualists, which are, notwithstanding, commonly taken for the most sublime and divine philosophers, Heraclitus gave a just censure, saying, "Men sought truth in "their own little worlds, and not in the great and "common world;" for they disdain to spell, and so by degrees to read in the volume of God's works; and contrariwise, by continual meditation and agitation of wit, do urge and as it were invocate their own spirits to divine, and give oracles unto them, whereby they are deservedly deluded.

Another error that hath some connexion with this latter, is, that men have used to infect their meditations, opinions, and doctrines, with some conceits which they have most admired, or some sciences which they have most applied; and given all things else a tincture according to them, utterly untrue and improper. So hath Plato intermingled his philosophy with theology, and Aristotle with logic; and the second school of Plato, Proclus and the rest, with the mathematics. For these were the arts which had a kind of primogeniture with them severally. So have the alchymists made a philosophy out of a few experiments of the furnace; and Gilbertus, our countryman, hath made a philosophy out of the observations of a loadstone. So Cicero,

when, reciting the several opinions of the nature of the soul, he found a musician that held the soul was but a harmony, saith pleasantly, "Hic ab arte sua "nonrecessit," &c. But of these conceits Aristotle speaketh seriously and wisely, when he saith, "Qui "respiciunt ad pauca de facili pronunciant."

Another error is an impatience of doubt, and haste to assertion without due and mature suspension of judgment. For the two ways of contemplation are not unlike the two ways of action, commonly spoken of by the ancients; the one plain and smooth in the beginning, and in the end impassable; the other rough and troublesome in the entrance, but after a while fair and even: so it is in contemplation; if a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties.

Another error is in the manner of the tradition and delivery of knowledge, which is for the most part magistral and peremptory, and not ingenuous and faithful; in a sort as may be soonest believed, and not easiliest examined. It is true, that in compendious treatises for practice, that form is not to be disallowed: but in the true handling of knowledge, men ought not to fall, either, on the one side, into the vein of Velleius the Epicurean: "Nil tam "metuens, quàm ne dubitare aliqua de re videretur:" nor, on the other side, into Socrates' ironical doubting of all things; but to propound things sincerely, with more or less asseveration, as they stand in a man's own judgment proved more or less.

Other errors there are in the scope that men propound to themselves, whereunto they bend their endeavours; for whereas the more constant and devoted kind of professors of any science ought to propound to themselves to make some additions to their science, they convert their labours to aspire to certain second prizes: as to be a profound interpreter or commentor, to be a sharp champion or defender, to be a methodical compounder or abridger, and so the patrimony of knowledge cometh to be sometimes improved, but seldom augmented.

But the greatest error of all the rest, is the mistaking or misplacing of the last or furthest end of knowledge: for men have entred into a desire of learning and knowledge, sometimes upon a natural curiosity, and inquisitive appetite; sometimes to entertain their minds with variety and delight; sometimes for ornament and reputation; and sometimes to enable them to victory of wit and contradiction; and most times for lucre and profession; and seldom sincerely to give a true account of their gift of reason, to the benefit and use of men: as if there were sought in knowledge a couch, whereupon to rest a searching and restless spirit; or a tarrasse for a wandering and variable mind to walk up and down with a fair prospect; or a tower of state, for a proud mind to raise itself upon; or a fort or commanding ground, for strife and contention; or a shop, for profit or sale; and not a rich storehouse, for the glory of the Creator, and the relief of man's estate. But this is that which will indeed dignify

and exalt knowledge, if contemplation and action may be more nearly and straitly conjoined and united together than they have been; a conjunction like unto that of the two highest planets, Saturn, the planet of rest and contemplation, and Jupiter, the planet of civil society and action: howbeit, I do not mean, when I speak of use and action, that end before-mentioned of the applying of knowledge to lucre and profession; for I am not ignorant how much that diverteth and interrupteth the prosecution and advancement of knowledge, like unto the golden ball thrown before Atalanta, which while she goeth aside and stoopeth to take up, the race is hindered;

"Declinat cursus, aurumque volubile tollit."

Neither is my meaning, as was spoken of Socrates, to call philosophy down from heaven to converse upon the earth; that is, to leave natural philosophy aside, and to apply knowledge only to manners and policy. But as both heaven and earth do conspire and contribute to the use and benefit of man; so the end ought to be, from both philosophies to separate and reject vain speculations, and whatsoever is empty and void, and to preserve and augment whatsoever is solid and fruitful: that knowledge may not be, as a curtesan, for pleasure and vanity only, or as a bond-woman, to acquire and gain to her master's use; but as a spouse, for generation, fruit, and comfort.

Thus have I described and opened, as by a kind of dissection, those peccant humours, (the prin-

cipal of them,) which have not only given impediment to the proficience of learning, but have given also occasion to the traducement thereof: wherein if I have been too plain, it must be remembered, "Fi-" delia vulnera amantis, sed dolosa oscula malignan-" tis." This, I think, I have gained, that I ought to be the better believed in that which I shall say pertaining to commendation; because I have proceeded so freely in that which concerneth censure. And yet I have no purpose to enter into a laudative of learning, or to make a hymn to the muses; (though I am of opinion that it is long since their rites were duly celebrated:) but my intent is, without varnish or amplification, justly to weigh the dignity of knowledge in the balance with other things, to take the true value thereof by testimonies and arguments divine and human.

First, therefore, let us seek the dignity of knowledge in the archetype or first platform, which is in the attributes and acts of God, as far as they are revealed to man, and may be observed with sobriety; wherein we may not seek it by the name of learning; for all learning is knowledge acquired, and all knowledge in God is original: and therefore we must look for it by another name, that of wisdom or sapience, as the Scriptures call it.

It is so then, that in the work of the creation we see a double emanation of virtue from God; the one referring more properly to power, the other to wisdom; the one expressed in making the subsistence of the matter, and the other in disposing the beauty

of the form. This being supposed, it is to be observed, that for any thing which appeareth in the history of the creation, the confused mass and matter of heaven and earth was made in a moment; and the order and disposition of that chaos or mass was the work of six days; such a note of difference it pleased God to put upon the works of power, and the works of wisdom; wherewith concurreth, that in the former it is not set down that God said, "Let there "be heaven and earth," as it is set down of the works following; but actually, that God made heaven and earth: the one carrying the style of a manufacture, and the other of a law, decree, or counsel.

To proceed to that which is next in order from God to spirits. We find, as far as credit is to be given to the celestial hierachy of that supposed Dionysius the senator of Athens, the first place or degree is given to the angels of love, which are termed Seraphim; the second to the angels of light, which are termed Cherubim; and the third, and so following places, to thrones, principalities, and the rest, which are all angels of power and ministry; so as the angels of knowledge and illumination are placed before the angels of office and domination.

To descend from spirits and intellectual forms to sensible and material forms; we read the first form that was created was light, which hath a relation and correspondence in nature and corporal things to knowledge in spirits and incorporal things.

So in the distribution of days, we see, the day wherein God did rest, and contemplate his own

works, was blessed above all the days wherein he did effect and accomplish them.

After the creation was finished, it is set down unto us, that man was placed in the garden to work therein; which work, so appointed to him, could be no other than work of contemplation; that is, when the end of work is but for exercise and experiment, not for necessity; for there being then no reluctation of the creature, nor sweat of the brow, man's employment must of consequence have been matter of delight in the experiment, and not matter of labour for the use. Again, the first acts which man performed in Paradise consisted of the two summary parts of knowledge; the view of creatures, and the imposition of names. As for the knowledge which induced the fall, it was, as was touched before, not the natural knowledge of creatures, but the moral knowledge of good and evil; wherein the supposition was, that God's commandments or prohibitions were not the originals of good and evil, but that they had other beginnings, which man aspired to know; to the end to make a total defection from God, and to depend wholly upon himself.

To pass on: in the first event or occurrence after the fall of man, we see, (as the Scriptures have infinite mysteries, not violating at all the truth of the story or letter,) an image of the two estates, the contemplative state and the active state, figured in the two persons of Abel and Cain, and in the two simplest and most primitive trades of life; that of the shepherd, (who, by reason of his leisure, rest in

a place, and living in view of heaven, is a lively image of a contemplative life,) and that of the husbandman: where we see again the favour and election of God went to the shepherd, and not to the tiller of the ground.

So in the age before the flood, the holy records within those few memorials which are there entered and registered, have vouchsafed to mention and honour the name of the inventors and authors of music and works in metal. In the age after the flood, the first great judgment of God upon the ambition of man was the confusion of tongues; whereby the open trade and intercourse of learning and knowledge was chiefly imbarred.

To descend to Moses the lawgiver, and God's first pen: he is adorned by the Scriptures with this addition and commendation, that he was "seen in all the learning of the Egyptians;" which nation, we know, was one of the most ancient schools of the world: for so Plato brings in the Egyptian priest saying unto Solon: "You Grecians are ever chil-"dren; you have no knowledge of antiquity, nor an-"tiquity of knowledge." Take a view of the ceremonial law of Moses; you shall find, besides the prefiguration of Christ, the badge or difference of the people of God, the exercise and impression of obedience, and other divine uses and fruits thereof, that some of the most learned Rabbins have travelled profitably and profoundly to observe, some of them a natural, some of them a moral sense, or reduction of many of the ceremonies and ordinances. As

in the law of the leprosy, where it is said, "If the "whiteness have overspread the flesh, the patient "may pass abroad for clean; but if there be any "whole flesh remaining, he is to be shut up for un-"clean;" one of them noteth a principle of nature, that putrefaction is more contagious before maturity than after: and another noteth a position of moral philosophy, that men abandoned to vice, do not so much corrupt manners, as those that are half-good and half-evil. So in this and very many other places in that law, there is to be found, besides the theological sense, much aspersion of philosophy.

So likewise in that excellent book of Job, if it be revolved with diligence, it will be found pregnant and swelling with natural philosophy; as for example, cosmography, and the roundness of the world, "Qui extendit aquilonem super vacuum, et appendit "terram super nihilum;" wherein the pensileness of the earth, the pole of the north, and the finiteness or convexity of heaven are manifestly touched: so again, matter of astronomy; "Spiritus ejus ornavit "cœlos, et obstetricante manu ejus eductus est Colu-"ber tortuosus." And in another place; "Nunquid "conjungere valebis micantes stellas Pleiadas, aut "gyrum Arcturi poteris dissipare?" Where the fixing of the stars, ever standing at equal distance, is with great elegancy noted. And in another place, "Qui facit Arcturum, et Oriona, et Hyadas, et inte-"riora Austri;" where again he takes knowledge of the depression of the southern pole, calling it the secrets of the south, because the southern stars

were in that climate unseen. Matter of generation; "Annon sicut lac mulsisti me, et sicut ca-"seum coagulasti me?" &c. Matter of minerals; "Habet argentum venarum suarum principia: et "auro locus est in quo conflatur, ferrum de terra "tollitur, et lapis solutus calore in æs vertitur:" and so forwards in that chapter.

So likewise in the person of Solomon the king, we see the gift or endowment of wisdom and learning, both in Solomon's petition, and in God's assent thereunto, preferred before all other terrene and temporal felicity. By virtue of which grant or donative of God, Solomon became enabled, not only to write those excellent parables, or aphorisms concerning divine and moral philosophy; but also to compile a natural history of all verdure, from the cedar upon the mountain to the moss upon the wall, (which is but a rudiment between putrefaction and an herb,) and also of all things that breathe or move. Nay, the same Solomon the king, although he excelled in the glory of treasure and magnificent buildings, of shipping and navigation, of service and attendance, of fame and renown, and the like, yet he maketh no claim to any of those glories, but only to the glory of inquisition of truth; for so he saith expressly, "The glory of God is to conceal a thing, but the "glory of the king is to find it out;" as if, according to the innocent play of children, the Divine Majesty took delight to hide his works, to the end to have them found out; and as if kings could not obtain a greater honour than to be God's playfellows in that

game; considering the great commandment of wits and means, whereby nothing needeth to be hidden from them.

Neither did the dispensation of God vary in the times after our Saviour came into the world; for our Saviour himself did first shew his power to subdue ignorance, by his conference with the priests and doctors of the law, before he shewed his power to subdue nature by his miracles. And the coming of the Holy Spirit was chiefly figured and expressed in the similitude and gift of tongues, which are but "vehicula scientiæ."

So in the election of those instruments, which it pleased God to use for the plantation of the faith, notwithstanding that at the first he did employ persons altogether unlearned, otherwise than by inspiration, more evidently to declare his immediate working, and to abase all human wisdom or knowledge; yet, nevertheless, that counsel of his was no sooner performed, but in the next vicissitude and succession he did send his divine truth into the world, waited on with other learnings, as with servants or handmaids: for so we see St. Paul, who was the only learned amongst the apostles, had his pen most used in the Scriptures of the New Testament.

So again, we find that many of the ancient bishops and fathers of the church were excellently read, and studied in all the learning of the heathen; insomuch, that the edict of the emperor Julianus, whereby it was interdicted unto Christians to be admitted into schools, lectures, or exercises of learning,

was esteemed and accounted a more pernicious engine and machination against the Christian faith, than were all the sanguinary prosecutions of his predecessors; neither could the emulation and jealousy of Gregory the First of that name, bishop of Rome, ever obtain the opinion of piety or devotion; but contrariwise received the censure of humour, malignity, and pusillanimity, even amongst holy men; in that he designed to obliterate and extinguish the memory of heathen antiquity and authors. But contrariwise, it was the Christian church, which, amidst the inundations of the Scythians on the one side from the north-west, and the Saracens from the east, did preserve, in the sacred lap and bosom thereof, the precious relics even of heathen learning, which otherwise had been extinguished, as if no such thing had ever been.

And we see before our eyes, that in the age of ourselves and our fathers, when it pleased God to call the church of Rome to account for their degenerate manners and ceremonies, and sundry doctrines obnoxious, and framed to uphold the same abuses; at one and the same time it was ordained by the Divine Providence, that there should attend withal a renovation, and new spring of all other knowledges: and, on the other side, we see the Jesuits, (who partly in themselves, and partly by the emulation and provocation of their example, have much quickened and strengthened the state of learning,) we see, I say, what notable service and reparation they have done to the Roman see.

Wherefore, to conclude this part, let it be observed, that there be two principal duties and services, besides ornament and illustration, which philosophy and human learning do perform to faith and religion. The one, because they are an effectual inducement to the exaltation of the glory of God: For as the Psalms and other Scriptures do often invite us to consider and magnify the great and wonderful works of God; so if we should rest only in the contemplation of the exterior of them, as they first offer themselves to our senses, we should do a like injury unto the majesty of God, as if we should judge or construe of the store of some excellent jeweller, by that only which is set out toward the street in his shop. The other, because they minister a singular help and preservative against unbelief and error: for our Saviour saith, "You err, "not knowing the Scriptures, nor the power of "God;" laying before us two books or volumes to study, if we will be secured from error; first, the Scriptures, revealing the will of God; and then the creatures expressing his power: whereof the latter is a key unto the former: not only opening our understanding to conceive the true sense of the Scriptures, by the general notions of reason and rules of speech; but chiefly opening our belief, in drawing us into a due meditation of the omnipotency of God, which is chiefly signed and engraven upon his works. Thus much therefore for divine testimony and evidence concerning the true dignity and value of learning.

As for human proofs, it is so large a field, as, in a discourse of this nature and brevity, it is fit rather to use choice of those things which we shall produce, than to embrace the variety of them. First, therefore, in the degrees of human honour amongst the heathen, it was the highest to obtain to a veneration and adoration as a God. This unto the Christians is as the forbidden fruit. But we speak now separately of human testimony: according to which, that which the Grecians call "apotheosis," and the Latins, "relatio inter divos," was the supreme honour which man could attribute unto man: especially when it was given, not by a formal decree or act of state, as it was used among the Roman emperors, but by an inward assent and belief. Which honour, being so high, had also a degree or middle term: for there were reckoned, above human honours, honours heroical and divine: in the attribution and distribution of which honours, we see, antiquity made this difference: that whereas founders and uniters of states and cities, lawgivers, extirpers of tyrants, fathers of the people, and other eminent persons in civil merit, were honoured but with the titles of worthies or demi-gods; such as were Hercules, Theseus, Minos, Romulus, and the like: on the other side, such as were inventors and authors of new arts, endowments, and commodities towards man's life, were ever consecrated amongst the gods themselves: as were Ceres, Bacchus, Mercurius, Apollo, and others: and justly; for the merit of the former is confined within the circle of an age or

a nation; and is like fruitful showers, which though they be profitable and good, yet serve but for that season, and for a latitude of ground where they fall; but the other is indeed like the benefits of heaven, which are permanent and universal. The former, again, is mixed with strife and perturbation; but the latter hath the true character of divine presence, coming "in aura leni," without noise or agitation.

Neither is certainly that other merit of learning, in repressing the inconveniencies which grow from man to man, much inferior to the former, of relieving the necessities which arise from nature; which merit was lively set forth by the ancients in that feigned relation of Orpheus's theatre, where all beasts and birds assembled; and, forgetting their several appetites, some of prey, some of game, some of quarrel, stood all sociably together listening to the airs and accords of the harp; the sound whereof no sooner ceased, or was drowned by some louder noise, but every beast returned to his own nature: wherein is aptly described the nature and condition of men, who are full of savage and unreclaimed desires of profit, of lust, of revenge; which as long as they give ear to precepts, to laws, to religion, sweetly touched with eloquence and persuasion of books, of sermons, of harangues, so long is society and peace maintained; but if these instruments be silent, or that sedition and tumult make them not audible, all things dissolve into anarchy and confusion.

But this appeareth more manifestly, when kings

themselves, or persons of authority under them, or other governors in commonwealths and popular estates, are endued with learning. For although he might be thought partial to his own profession, that said "Then should people and estates be happy, when "either kings were philosophers, or philosophers "kings;" yet so much is verified by experience, that under learned princes and governors there have been ever the best times: for howsoever kings may have their imperfections in their passions and customs; yet if they be illuminate by learning, they have those notions of religion, policy, and morality, which do preserve them, and refrain them from all ruinous and peremptory errors and excesses; whispering evermore in their ears, when counsellors and servants stand mute and silent. And senators or counsellors likewise, which be learned, do proceed upon more safe and substantial principles, than counsellors which are only men of experience; the one sort keeping dangers afar off, whereas the other discover them not till they come near hand, and then trust to the agility of their wit to ward off or avoid them.

Which felicity of times under learned princes, (to keep still the law of brevity, by using the most eminent and selected examples), doth best appear in the age which passed from the death of Domitian the emperor until the reign of Commodus; comprehending a succession of six princes, all learned, or singular favourers and advancers of learning; which age, for temporal respects, was the most happy and

flourishing that ever the Roman empire, (which then was a model of the world,) enjoyed: a matter revealed and prefigured unto Domitian in a dream the night before he was slain; for he thought there was grown behind upon his shoulders a neck and a head of gold: which came accordingly to pass in those golden times which succeeded: of which princes we will make some commemoration; wherein although the matter will be vulgar, and may be thought fitter for a declamation than agreeable to a treatise infolded as this is, yet because it is pertinent to the point in hand, "neque semper arcum "tendit Apollo," and to name them only were too naked and cursory, I will not omit it altogether.

The first was Nerva; the excellent temper of whose government is by a glance in Cornelius Tacitus touched to the life: "Postquam divus "Nerva res olim insociabiles miscuisset, imperium et "libertatem." And in token of his learning, the last act of his short reign, left to memory, was a missive to his adopted son Trajan, proceeding upon some inward discontent at the ingratitude of the times, comprehended in a verse of Homer's:

"Telis, Phœbe, tuis lacrymas ulciscere nostras."

Trajan, who succeeded, was for his person not learned: but if we will hearken to the speech of our Saviour, that saith, "He that receiveth a prophet in "the name of a prophet, shall have a prophet's "reward," he deserveth to be placed amongst the most learned princes: for there was not a greater ad-

mirer of learning, or benefactor of learning; a founder of famous libraries, a perpetual advancer of learned men to office, and a familiar converser with learned professors and precepters, who were noted to have then most credit in court. On the other side, how much Trajan's virtue and government was admired and renowned, surely no testimony of grave and faithful history doth more livelily set forth, than that legend tale of Gregorius Magnus, bishop of Rome, who was noted for the extreme envy he bore towards all heathen excellency: and yet he is reported, out of the love and estimation of Trajan's moral virtues, to have made unto God passionate and fervent prayers for the delivery of his soul out of hell: and to have obtained it, with a caveat that he should make no more such petitions. In this prince's time also, the persecutions against the Christians received intermission, upon the certificate of Plinius Secundus, a man of excellent learning and by Trajan advanced.

Adrian, his successor, was the most curious man that lived, and the most universal inquirer; insomuch as it was noted for an error in his mind, that he desired to comprehend all things, and not to reserve himself for the worthiest things: falling into the like humour that was long before noted in Philip of Macedon; who, when he would needs over-rule and put down an excellent musician in an argument touching music, was well answered by him again, "God forbid, Sir," saith he, "that your fortune "should be so bad, as to know these things better

"than I." It pleased God likewise to use the curiosity of this emperor as an inducement to the peace of his church in those days. For having Christ in veneration, not as a God or Saviour, but as a wonder or novelty; and having his picture in his gallery, matched with Apollonius, with whom, in his vain imagination, he thought he had some conformity; yet it served the turn to allay the bitter hatred of those times against the christian name, so as the church had peace during his time. And for his government civil, although he did not attain to that of Trajan's in glory of arms, or perfection of justice, yet in deserving of the weal of the subject he did exceed him. For Trajan erected many famous monuments and buildings; insomuch as Constantine the Great in emulation was want to call him "Parietaria," (wall flower,) because his name was upon so many walls: but his buildings and works were more of glory and triumph than use and necessity. But Adrian spent his whole reign, which was peaceable, in a perambulation or survey of the Roman empire; giving order, and making assignation where he went, for re-edifying of cities, towns, and forts decayed; and for cutting of rivers and streams, and for making bridges and passages, and for policying of cities and commonalties with new ordinances and constitutions, and granting new franchises and incorporations; so that his whole time was a very restoration of all the lapses and decays of former times.

Antoninus Pius, who succeeded him, was a prince excellently learned; and had the patient and

subtle wit of a schoolman; insomuch as in common speech, which leaves no virtue untaxed, he was called "cymini sector," (a carver or divider of cumin,) which is one of the least seeds; such a patience he had and settled spirit, to enter into the least and most exact differences of causes; a fruit no doubt of the exceeding tranquillity and serenity of his mind; which being no ways charged or incumbered, either with fears, remorses, or scruples, but having been noted for a man of the purest goodness, without all fiction or affectation, that hath reigned or lived, made his mind continually present and entire. He likewise approached a degree nearer unto Christianity, and became, as Agrippa said unto St. Paul, "half a Christian;" holding their religion and law in good opinion, and not only ceasing persecution, but giving way to the advancement of Christians.

There succeeded him the first "divi fratres," the two adoptive brethren, Lucius Commodus Verus, (son to Ælius Verus, who delighted much in the softer kind of learning, and was wont to call the poet Martial his Virgil,) and Marcus Aurelius Antoninus; whereof the latter, who obscured his colleague and survived him long, was named the philosopher: who as he excelled all the rest in learning, so he excelled them likewise in perfection of all royal virtues; insomuch as Julianus the emperor, in his book intitled "Cæsares," being as a pasquin or satire to deride all his predecessors, feigned that they were all invited to a banquet of the gods, and Silenus the Jester sat at the nether end of the table,

and bestowed a scoff on every one as they came in; but when Marcus Philosophus came in, Silenus was gravelled, and out of countenance, not knowing where to carp at him; save at the last he gave a glance at his patience towards his wife. And the virtue of this prince, continued with that of his predecessor, made the name of Antoninus so sacred in the world, that though it were extremely dishonoured in Commodus, Caracalla, and Heliogabalus, who all bore the name, yet when Alexander Severus refused the name, because he was a stranger to the family, the Senate with one acclamation said, "Quo modo "Augustus, sic et Antoninus." In such renown and veneration was the name of these two princes in those days, that they would have it as a perpetual addition in all the emperors' styles. In this emperor's times also the church for the most part was in peace; so as in this sequence of six princes we do see the blessed effects of learning in sovereignty, painted forth in the greatest table of the world.

But for a tablet, or picture of smaller volume, (not presuming to speak of your majesty that liveth,) in my judgment the most excellent is that of queen Elizabeth, your immediate predecessor in this part of Britain; a princess that, if Plutarch were now alive to write lives by parallels, would trouble him, I think, to find for her a parallel amongst women. This lady was endued with learning in her sex singular, and rare even amongst masculine princes; whether we speak of learning, language, or of science, modern, or ancient, divinity or humanity:

and unto the very last year of her life she was accustomed to appoint set hours for reading, scarcely any young student in any university more daily, or more duly. As for her government, I assure myself, I shall not exceed, if I do affirm that this part of the island never had forty-five years of better times; and yet not through the calmness of the season, but through the wisdom of her regimen. For if there be considered of the one side, the truth of religion established, the constant peace and security, the good administration of justice, the temperate use of the prerogative, not slackened, nor much strained, the flourishing state of learning, sortable to so excellent a patroness, the convenient estate of wealth and means, both of crown and subject, the habit of obedience, and the moderation of discontents; and there be considered, on the other side, the differences of religion, the troubles of neighbour countries, the ambition of Spain, and opposition of Rome: and then, that she was solitary and of herself: these things, I say, considered, as I could not have chosen an instance so recent and so proper, so, I suppose, I could not have chosen one more remarkable or eminent to the purpose now in hand, which is concerning the conjunction of learning in the prince with felicity in the people.

Neither hath learning an influence and operation only upon civil merit and moral virtue, and the arts or temperature of peace and peaceable government; but likewise it hath no less power and efficacy in enablement towards martial and military virtue and

prowess; as may be notably represented in the examples of Alexander the Great, and Cæsar the Dictator, mentioned before, but now in fit place to be resumed; of whose virtues and acts in war there needs no note or recital, having been the wonders of time in that kind: but of their affections towards learning, and perfections in learning, it is pertinent to say somewhat.

Alexander was bred and taught under Aristotle the great philosopher, who dedicated divers of his books of philosophy unto him: he was attended with Callisthenes and divers other learned persons, that followed him in camp, throughout his journeys and conquests. What price and estimation he had learning in doth notably appear in these three particulars: first, in the envy he used to express that he bore towards Achilles, in this, that he had so good a trumpet of his praises as Homer's verses; secondly, in the judgment or solution he gave touching that precious cabinet of Darius, which was found among his jewels; whereof question was made what thing was worthy to be put into it; and he gave his opinion for Homer's works: thirdly, in his letter to Aristotle, after he had set forth his books of nature, wherein he expostulated with him for publishing the secrets or mysteries of philosophy; and gave him to understand that himself esteemed it more to excel other men in learning and knowledge than in power and empire. And what use he had of learning doth appear, or rather shine, in all his speeches and answers, being full of science, and use of science, and that in all variety.

And herein again it may seem a thing scholastical, and somewhat idle, to recite things that every man knoweth; but yet, since the argument I handle leadeth me thereunto, I am glad that men shall perceive I am as willing to flatter, if they will so call it, an Alexander, or a Cæsar, or an Antoninus, that are dead many hundred years since, as any that now liveth: for it is the displaying of the glory of learning in sovereignty that I propound to myself, and not an humour of declaiming in any man's praises. Observe then the speech he used of Diogenes, and see if it tend not to the true state of one of the greatest questions of moral philosophy; whether the enjoying of outward things, or the contemning of them, be the greatest happiness: for when he saw Diogenes so perfectly contented with so little, he said to those that mocked at his condition; "Were I "not Alexander, I would wish to be Diogenes." But Seneca inverteth it, and saith; "Plus erat, quod hic "nollet accipere, quàm quod ille posset dare." (There were more things which Diogenes would have refused, than there were which Alexander could have given.)

Observe again that speech which was usual with him, "That he felt his mortality chiefly in two "things, sleep and lust;" and see if it were not a speech extracted out of the depth of natural philosophy, and liker to have come out of the mouth of Aristotle or Democritus, than from Alexander.

See again that speech of humanity and poesy; when upon the bleeding of his wounds, he called unto him one of his flatterers, that was wont to ascribe to him divine honor, and said, "Look, this is

"very blood; this is not such a liquor as Homer "speaketh of, which ran from Venus' hand, when "it was pierced by Diomedes."

See likewise his readiness in reprehension of logic, in the speech he used to Cassander, upon a complaint that was made against his father Antipater: for when Alexander happened to say, "Do "you think these men would have come from so far "to complain, except they had just cause of grief?" And Cassander answered, "Yea, that was the mat-"ter, because they thought they should not be dis-"proved." Said Alexander laughing: "See the "subtilties of Aristotle, to take a matter both ways "'pro et contra,'" &c.

But note again how well he could use the same art, which he reprehended, to serve his own humour; when bearing a secret grudge to Callisthenes, because he was against the new ceremony of his adoration, feasting one night where the same Callisthenes was at the table, it was moved by some after supper, for entertainment sake, that Callisthenes, who was an eloquent man, might speak of some theme or purpose, at his own choice: which Callisthenes did; choosing the praise of the Macedonian nation for his discourse, and performing the same with so good manner, as the hearers were much ravished: whereupon Alexander, nothing pleased, said, "It was easy to be eloquent upon so good a subject. "But," saith he, "turn your style, and let us hear "what you can say against us:" which Callisthenes presently undertook, and did with that sting and life, that Alexander interrupted him, and said, "The

"goodness of the cause made him eloquent before,
"and despite made him eloquent then again."

Consider further, for tropes of rhetoric, that excellent use of a metaphor or translation, wherewith he taxed Antipater, who was an imperious and tyrannous governor: for when one of Antipater's friends commended him to Alexander for his moderation, that he did not degenerate, as his other lieutenants did, into the Persian pride in use of purple, but kept the ancient habit of Macedon, of black; "True," saith Alexander, "but Antipater is all purple within." Or that other, when Parmenio came to him in the plain of Arbela, and shewed him the innumerable multitude of his enemies, especially as they appeared by the infinite number of lights, as it had been a new firmament of stars, and thereupon advised him to assail them by night: whereupon he answered, "That he would not steal the victory."

For matter of policy, weigh that significant distinction, so much in all ages embraced, that he made between his two friends, Hephæstion and Craterus, when he said, "That the one loved Alexander, and "the other loved the king:" describing the principal difference of princes' best servants, that some in affection love their person, and others in duty love their crown.

Weigh also that excellent taxation of an error, ordinary with counsellors of princes, that they counsel their masters according to the model of their own mind and fortune, and not of their masters; when, upon Darius's great offers, Parmenio had said,

"Surely I would accept these offers, were I as Alex-
"ander;" saith Alexander, "So would I, were I as
"Parmenio."

Lastly, weigh that quick and acute reply, which he made when he gave so large gifts to his friends and servants, and was asked what he did reserve for himself, and he answered, "Hope:" weigh, I say, whether he had not cast up his account right, because hope must be the portion of all that resolve upon great enterprises. For this was Cæsar's portion when he went first into Gaul, his estate being then utterly overthrown with largesses. And this was likewise the portion of that noble prince, howsoever transported with ambition, Henry duke of Guise, of whom it was usually said, that he was the greatest usurer in France, because he had turned all his estate into obligations.

To conclude therefore: as certain critics are used to say hyperbolically, "That if all sciences were lost,
"they might be found in Virgil;" so certainly this may be said truly, there are the prints and footsteps of learning in those few speeches which are reported of this prince: the admiration of whom, when I consider him not as Alexander the Great, but as Aristotle's scholar, hath carried me too far.

As for Julius Cæsar, the excellency of his learning needeth not to be argued from his education, or his company, or his speeches; but in a further degree doth declare itself in his writings and works; whereof some are extant and permanent, and some unfortunately perished. For, first, we see, there is left unto

us that excellent history of his own wars, which he intitled only a commentary, wherein all succeeding times have admired the solid weight of matter, and the real passages and lively images of actions and persons, expressed in the greatest propriety of words and perspicuity of narration that ever was; which that it was not the effect of a natural gift, but of learning and precept, is well witnessed by that work of his, intitled, "De Analogia," being a grammatical philosophy, wherein he did labour to make this same "vox ad placitum" to become "vox ad licitum," and to reduce custom of speech to congruity of speech; and took, as it were, the picture of words from the life of reason.

So we receive from him, as a monument both of his power and learning, the then reformed computation of the year; well expressing, that he took it to be as great a glory to himself to observe and know the law of the heavens, as to give law to men upon the earth.

So likewise in that book of his, "Anti-Cato," it may easily appear that he did aspire as well to victory of wit as victory of war; undertaking therein a conflict against the greatest champion with the pen that then lived, Cicero the orator.

So again in his book of "Apophthegms," which he collected, we see that he esteemed it more honour to make himself but a pair of tables, to take the wise and pithy words of others, than to have every word of his own to be made an apophthegm or an oracle; as vain princes, by custom of flattery, pretend to do.

And yet if I should enumerate divers of his speeches, as I did those of Alexander, they are truly such as Solomon noteth, when he saith, "Verba sapientum "tanquam aculei, et tanquam clavi in altum defixi:" whereof, I will only recite three, not so delectable for elegancy, but admirable for vigour and efficacy.

As, first, it is reason he be thought a master of words, that could with one word appease a mutiny in his army, which was thus: The Romans, when their generals did speak to their army, did use the word "Milites," but when the magistrates spake to the people, they did use the word "Quirites." The soldiers were in tumult, and seditiously prayed to be cashiered; not that they so meant, but by expostulation thereof to draw Cæsar to other conditions; wherein he being resolute not to give way, after some silence, he began his speech, "Ego, Quirites:" which did admit them already cashiered; wherewith they were so surprised, crossed, and confused, as they would not suffer him to go on in his speech, but relinquished their demands, and made it their suit to be again called by the name of "Milites."

The second speech was thus: Cæsar did extremely affect the name of king; and some were set on, as he passed by, in popular acclamation to salute him king; whereupon, finding the cry weak and poor, he put it off thus, in a kind of jest, as if they had mistaken his surname; "Non rex sum, sed Cæsar;" a speech, that if it be searched, the life and fulness of it can scarce be expressed: for, first, it was a refusal of the name, but yet not serious: again, it did signify

an infinite confidence and magnanimity, as if he presumed Cæsar was the greater title; as by his worthiness it is come to pass till this day: but chiefly it was a speech of great allurement toward his own purpose; as if the state did strive with him but for a name, whereof mean families were vested; for Rex was a surname with the Romans, as well as King is with us.

The last speech which I will mention, was used to Metellus; when Cæsar, after war declared, did possess himself of the city of Rome; at which time entering into the inner treasury to take the money there accumulated, Metellus, being tribune, forbade him: whereto Cæsar said, "That if he did not desist, "he would lay him dead in the place." And presently taking himself up, he added, "Adolescens, "durius est mihi hoc dicere quàm facere." Young man, it is harder for me to speak than to do it. A speech compounded of the greatest terror and greatest clemency that could proceed out of the mouth of man.

But to return, and conclude with him: it is evident, himself knew well his own perfection in learning, and took it upon him; as appeared when, upon occasion that some spake what a strange resolution it was in Lucius Sylla to resign his dictature; he scoffing at him, to his own advantage, answered, "That Sylla could not skill of letters, and therefore "knew not how to dictate."

And here it were fit to leave this point, touching the concurrence of military virtue and learning, for what example would come with any grace after

those two of Alexander and Cæsar? were it not in regard of the rareness of circumstance, that I find in one other particular, as that which did so suddenly pass from extreme scorn to extreme wonder; and it is of Xenophon the philosopher, who went from Socrates' school into Asia, in the expedition of Cyrus the younger, against king Artaxerxes. This Xenophon at that time was very young, and never had seen the wars before; neither had any command in the army, but only followed the war as a voluntary, for the love and conversation of Proxenus his friend. He was present when Falinus came in message from the great king to the Grecians, after that Cyrus was slain in the field, and they a handful of men left to themselves in the midst of the king's territories, cut off from their country by many navigable rivers, and many hundred miles. The message imported, that they should deliver up their arms, and submit themselves to the king's mercy. To which message before answer was made divers of the army conferred familiarly with Falinus: and amongst the rest Xenophon happened to say, "Why, Falinus, we have now but these two things "left, our arms and our virtue! and if we yield up "our arms, how shall we make use of our virtue?" Whereto Falinus, smiling on him, said, "If I be "not deceived, young gentleman, you are an Athe-"nian; and, I believe you study philosophy, and it is "pretty that you say: but you are much abused, if "you think your virtue can withstand the king's "power." Here was the scorn; the wonder followed:

which was, that this young scholar, or philosopher, after all the captains were murdered in parley by treason, conducted those ten thousand foot, through the heart of all the king's high countries, from Babylon to Græcia in safety, in despite of all the king's forces, to the astonishment of the world, and the encouragement of the Grecians in time succeeding to make invasion upon the kings of Persia: as was after purposed by Jason the Thessalian, attempted by Agesilaus the Spartan, and atchieved by Alexander the Macedonian, all upon the ground of the act of that young scholar.

To proceed now from imperial and military virtue to moral and private virtue: first, it is an assured truth, which is contained in the verses:

> "Scilicet ingenuas didicisse fideliter artes,
> Emollit mores, nec sinit esse feros."

It taketh away the wildness and barbarism and fierceness of men's minds: but indeed the accent had need be upon "fideliter:" for a little superficial learning doth rather work a contrary effect. It taketh away all levity, temerity, and insolency, by copious suggestion of all doubts and difficulties, and acquainting the mind to balance reasons on both sides, and to turn back the first offers and conceits of the mind, and to accept of nothing but examined and tried. It taketh away vain admiration of any thing, which is the root of all weakness: for all things are admired, either because they are new, or because they are great. For novelty, no man that wadeth in learning or contemplation throughly,

but will find that printed in his heart "Nil novi "super terram." Neither can any man marvel at the play of puppets, that goeth behind the curtain, and adviseth well of the motion. And for magnitude, as Alexander the Great, after that he was used to great armies, and the great conquests of the spacious provinces in Asia, when he received letters out of Greece, of some fights and services there, which were commonly for a passage or a fort or some walled town at the most, he said, "It seemed to "him, that he was advertised of the battle of the "frogs and the mice, that the old tales went of." So certainly, if a man meditate much upon the universal frame of nature, the earth with men upon it, (the divineness of souls except,) will not seem much other than an ant-hill, where as some ants carry corn, and some carry their young, and some go empty, and all to-and-fro a little heap of dust. It taketh away or mitigateth fear of death, or adverse fortune; which is one of the greatest impediments of virtue, and imperfections of manners. For if a man's mind be deeply seasoned with the consideration of the mortality and corruptible nature of things, he will easily concur with Epictetus, who went forth one day and saw a woman weeping for her pitcher of earth that was broken; and went forth the next day, and saw a woman weeping for her son that was dead: and thereupon said, "Heri "vidi fragilem frangi, hodie vidi mortalem mori." And therefore Virgil did excellently and profoundly,

couple the knowledge of causes and the conquest of all fears together, as "concomitantia."

> "Felix, qui potuit rerum cognoscere causas,
> Quique metus omnes, et inexorabile fatum
> Subjecit pedibus, strepitumque Acherontis avari."

It were too long to go over the particular remedies which learning doth minister to all the diseases of the mind; sometimes purging the ill-humours, sometimes opening the obstructions, sometimes helping digestion, sometimes increasing appetite, sometimes healing the wounds and exulcerations thereof, and the like; and therefore I will conclude with that which hath "rationem totius," which is, that it disposeth the constitution of the mind not to be fixed or settled in the defects thereof, but still to be capable and susceptible of growth and reformation. For the unlearned man knows not what it is to descend into himself, or to call himself to account; nor the pleasure of that "suavissima vita, indies sentire se fieri meliorem." The good parts he hath he will learn to shew to the full, and use them dexterously, but not much to increase them: the faults he hath he will learn how to hide and colour them, but not much to amend them: like an ill mower, that mows on still, and never whets his scythe. Whereas with the learned man it fares otherwise, that he doth ever intermix the correction and amendment of his mind with the use and employment thereof. Nay further, in general and in sum, certain it is that "veritas" and

"bonitas" differ but as the seal and the print: for truth prints goodness; and they be the clouds of error which descend in the storms of passions and perturbations.

From moral virtue let us pass on to matter of power and commandment, and consider whether in right reason there be any comparable with that wherewith knowledge investeth and crowneth man's nature. We see the dignity of the commandment is according to the dignity of the commanded: to have commandment over beasts, as herdsmen have, is a thing contemptible; to have commandment over children, as schoolmasters have, is a matter of small honor; to have commandment over galley-slaves is a disparagement rather than an honour. Neither is the commandment of tyrants much better, over people which have put off the generosity of their minds: and therefore it was ever holden that honours in free monarchies and commonwealths had a sweetness more than in tyrannies; because the commandment extendeth more over the wills of men, and not only over their deeds and services. And therefore, when Virgil putteth himself forth to attribute to Augustus Cæsar the best of human honours, he doth it in these words:

"victorque volentes
"Per populos dat jura, viamque affectat Olympo."

But the commandment of knowledge is yet higher than the commandment over the will; for it is a commandment over the reason, belief, and understanding of man, which is the highest part of the

mind, and giveth law to the will itself: for there is no power on earth which setteth up a throne or chair of state in the spirits and souls of men, and in their cogitations, imaginations, opinions, and beliefs, but knowledge and learning. And therefore we see the detestable and extreme pleasure that arch-heretics, and false prophets, and impostors are transported with, when they once find in themselves that they have a superiority in the faith and conscience of men; so great, that, if they have once tasted of it, it is seldom seen that any torture or persecution can make them relinquish or abandon it. But as this is that which the author of the "Revelation" calleth the depth or profoundness "of "Satan;" so by argument of contraries, the just and lawful sovereignty over men's understanding, by force of truth rightly interpreted, is that which approacheth nearest to the similitude of the divine rule.

As for fortune and advancement, the beneficence of learning is not so confined to give fortune only to states and commonwealths, as it doth not likewise give fortune to particular persons. For it was well noted long ago, that Homer hath given more men their livings, than either Sylla, or Cæsar, or Augustus ever did, notwithstanding their great largesses and donatives, and distributions of lands to so many legions: and no doubt it is hard to say, whether arms or learning have advanced greater numbers. And in case of sovereignty we see, that if arms or descent have carried away the kingdom, yet

learning hath carried the priesthood, which ever hath been in some competition with empire.

Again, for the pleasure and delight of knowledge and learning, it far surpasseth all other in nature: for, shall the pleasures of the affections so exceed the senses, as much as the obtaining of desire or victory exceedeth a song or a dinner; and must not, of consequence, the pleasures of the intellect or understanding exceed the pleasures of the affections? We see in all other pleasures there is satiety, and after they be used, their verdure departeth; which sheweth well they be but deceits of pleasure, and not pleasures; and that it was the novelty which pleased, and not the quality: and therefore we see that voluptuous men turn friars, and ambitious princes turn melancholy. But of knowledge there is no satiety, but satisfaction and appetite are perpetually interchangeable; and therefore appeareth to be good in itself simply, without fallacy or accident. Neither is that pleasure of small efficacy and contentment to the mind of man, which the poet Lucretius describeth elegantly,

"Suave mari magno, turbantibus æquora ventis," &c.

"It is a view of delight," saith he, "to stand or "walk upon the shore side, and to see a ship tossed "with tempest upon the sea; or to be in a fortified "tower, and to see two battles join upon a plain; "but it is a pleasure incomparable, for the mind of "man to be settled, landed, and fortified in the cer-"tainty of truth; and from thence to descry and

"behold the errors, perturbations, labours, and "wanderings up and down of other men."

Lastly, leaving the vulgar arguments, that by learning man excelleth man in that wherein man excelleth beasts; that by learning man ascendeth to the heavens and their motions, where in body he cannot come, and the like; let us conclude with the dignity and excellency of knowledge and learning in that whereunto man's nature doth most aspire, which is, immortality or continuance: for to this tendeth generation, and raising of houses and families; to this buildings, foundations, and monuments; to this tendeth the desire of memory, fame, and celebration, and in effect the strength of all other human desires. We see then how far the monuments of wit and learning are more durable than the monuments of power or of the hands. For have not the verses of Homer continued twenty-five hundred years, or more, without the loss of a syllable or letter; during which time, infinite palaces, temples, castles, cities, have been decayed and demolished? It is not possible to have the true pictures or statues of Cyrus, Alexander, Cæsar; no, nor of the kings or great personages of much later years; for the originals cannot last, and the copies cannot but lose of the life and truth. But the images of men's wits and knowledges remain in books, exempted from the wrong of time, and capable of perpetual renovation. Neither are they fitly to be called images, because they generate still, and cast their seeds in the minds of others, pro-

voking and causing infinite actions and opinions in succeeding ages: so that, if the invention of the ship was thought so noble, which carrieth riches and commodities from place to place, and consociateth the most remote regions in participation of their fruits, how much more are letters to be magnified, which, as ships, pass through the vast seas of time, and make ages so distant to participate of the wisdom, illuminations, and inventions, the one of the other? Nay further, we see, some of the philosophers which were least divine, and most immersed in the senses, and denied generally the immortality of the soul, yet came to this point, that whatsoever motions the spirit of man could act and perform without the organs of the body, they thought, might remain after death, which were only those of the understanding, and not of the affections; so immortal and incorruptible a thing did knowledge seem unto them to be. But we, that know by divine revelation, that not only the understanding but the affections purified, not only the spirit but the body changed, shall be advanced to immortality, do disclaim these rudiments of the senses. But it must be remembered both in this last point, and so it may likewise be needful in other places, that in probation of the dignity of knowledge or learning, I did in the beginning separate divine testimony from human, which method I have pursued, and so handled them both apart.

Nevertheless, I do not pretend, and I know it will be impossible for me, by any pleading of mine,

to reverse the judgment, either of Æsop's cock, that preferred the barleycorn before the gem; or of Midas, that being chosen judge between Apollo president of the Muses, and Pan god of the flocks, judged for plenty; or of Paris, that judged for beauty and love against wisdom and power; nor of Agrippina, "occidat matrem, modo imperet," that preferred empire with conditions never so detestable; or of Ulysses, "qui vetulam prætulit immortalitati," being a figure of those which prefer custom and habit before all excellency; or of a number of the like popular judgments. For these things continue as they have been: but so will that also continue whereupon learning hath ever relied, and which faileth not: "Justificata est sapientia a filiis suis."

THE SECOND BOOK OF FRANCIS BACON. OF THE PROFICIENCE OR ADVANCEMENT OF LEARNING, DIVINE AND HUMAN.

TO THE KING.

It might seem to have more convenience, though it come often otherwise to pass, excellent king, that those, which are fruitful in their generations, and have in themselves the foresight of immortality in their descendants, should likewise be more careful of the good estate of future times, unto which they know they must transmit and commend over their dearest pledges. Queen Elizabeth was a sojourner in the world, in respect of her unmarried life, and was a blessing to her own times: and yet so as the impression of her good government, besides her happy memory, is not without some effect which doth survive her. But to your majesty, whom God hath already blessed with so much royal issue, worthy to continue and represent you for ever; and whose youthful and fruitful bed doth yet promise many of the like renovations; it is proper and agree-

able to be conversant, not only in the transitory parts of good government, but in those acts also which are in their nature permanent and perpetual: amongst the which, if affection do not transport me, there is not any more worthy than the further endowment of the world with sound and fruitful knowledge. For why should a few received authors stand up like Hercules's columns, beyond which there should be no sailing or discovering, since we have so bright and benign a star as your majesty to conduct and prosper us? To return therefore where we left, it remaineth to consider of what kind those acts are, which have been undertaken and performed by kings and others for the increase and advancement of learning: wherein I purpose to speak actively without digressing or dilating.

Let this ground therefore be laid, that all works are overcome by amplitude of reward, by soundness of direction, and by the conjunction of labours. The first multiplieth endeavour, the second preventeth error, and the third supplieth the frailty of man: but the principal of these is direction: for "claudus "in via antevertit cursorem extra viam;" and Solomon excellently setteth it down, "If the iron be "not sharp, it requireth more strength; but wis-"dom is that which prevaileth;" signifying that the invention or election of the mean is more effectual than any inforcement or accumulation of endeavours. This I am induced to speak, for that (not derogating from the noble intention of any that have been deservers towards the state of learning)

I do observe, nevertheless, that their works and acts are rather matters of magnificence and memory, than of progression and proficience; and tend rather to augment the mass of learning in the multitude of learned men, than to rectify or raise the sciences themselves.

The works or acts of merit towards learning are conversant about three objects: the places of learning, the books of learning, and the persons of the learned. For as water, whether it be the dew of heaven, or the springs of the earth, doth scatter and lose itself in the ground, except it be collected into some receptacle, where it may by union comfort and sustain itself, (and for that cause the industry of man hath made and framed spring-heads, conduits, cisterns, and pools, which men have accustomed likewise to beautify and adorn with accomplishments of magnificence and state, as well as of use and necessity) so this excellent liquor of knowledge, whether it descend from divine inspiration, or spring from human sense, would soon perish and vanish to oblivion, if it were not preserved in books, traditions, conferences, and places appointed, as universities, colleges, and schools, for the receipt and comforting of the same.

The works which concern the seats and places of learning are four; foundations and buildings, endowments with revenues, endowments with franchises and privileges, institutions and ordinances for government; all tending to quietness and privateness of life, and discharge of cares and troubles; much

like the stations which Virgil prescribeth for the hiving of bees:

> "Principio sedes apibus statioque petenda,
> "Quo neque sit ventis aditus," &c.

The works touching books are two; first libraries, which are as the shrines where all the relics of the ancient saints, full of true virtue, and that without delusion or imposture, are preserved and reposed: secondly, new editions of authors, with more correct impressions, more faithful translations, more profitable glosses, more diligent annotations, and the like.

The works pertaining to the persons of learned men, besides the advancement and countenancing of them in general, are two: the reward and designation of readers in sciences already extant and invented; and the reward and designation of writers and inquirers concerning any parts of learning not sufficiently laboured and prosecuted.

These are summarily the works and acts, wherein the merits of many excellent princes and other worthy personages have been conversant. As for any particular commemorations, I call to mind what Cicero said, when he gave general thanks; "Difficile non aliquem, ingratum, quenquam præterire." Let us rather, according to the Scriptures, look unto that part of the race which is before us, than look back to that which is already attained.

First, therefore, amongst so many great foundations of colleges in Europe, I find it strange that they are all dedicated to professions, and none left free

to arts and sciences at large. For if men judge that learning should be referred to action, they judge well; but in this they fall into the error described in the ancient fable, in which the other parts of the body did suppose the stomach had been idle, because it neither performed the office of motion, as the limbs do, nor of sense, as the head doth; but yet, notwithstanding, it is the stomach that digesteth and distributeth to all the rest: so if any man think philosophy and universality to be idle studies, he doth not consider that all professions are from thence served and supplied. And this I take to be a great cause that hath hindered the progression of learning, because these fundamental knowledges have been studied but in passage. For if you will have a tree bear more fruit than it hath used to do, it is not any thing you can do to the boughs, but it is the stirring of the earth, and putting new mould about the roots, that must work it. Neither is it to be forgotten, that this dedicating of foundations and donations to professory learning hath not only had a malign aspect and influence upon the growth of sciences, but hath also been prejudicial to states and governments. For hence it proceedeth that princes find a solitude in regard of able men to serve them in causes of state, because there is no education collegiate which is free; where such as were so disposed might give themselves to histories, modern languages, books of policy and civil discourse, and other the like enablements unto service of estate.

And because founders of colleges do plant, and

founders of lectures do water, it followeth well in order to speak of the defect which is in public lectures; namely, in the smallness and meanness of the salary or reward which in most places is assigned unto them; whether they be lectures of arts, or of professions. For it is necessary to the progression of sciences that readers be of the most able and sufficient men; as those which are ordained for generating and propagating of sciences, and not for transitory use. This cannot be, except their condition and endowment be such as may content the ablest man to appropriate his whole labour, and continue his whole age in that function and attendance; and therefore must have a proportion answerable to that mediocrity or competency of advancement, which may be expected from a profession or the practice of a profession. So as, if you will have sciences flourish, you must observe David's military law, which was, "That those which staid with the carriage should "have equal part with those which were in the ac-"tion;" else will the carriages be ill attended. So readers in sciences are indeed the guardians of the stores and provisions of sciences, whence men in active courses are furnished, and therefore ought to have equal entertainment with them; otherwise if the fathers in sciences be of the weakest sort, or be ill-maintained.

"Et patrum invalidi referent jejunia nati."

Another defect I note, wherein I shall need some alchemist to help me, who call upon men to sell their

books, and to build furnaces; quitting and forsaking Minerva and the Muses as barren virgins, and relying upon Vulcan. But certain it is, that unto the deep, fruitful, and operative study of many sciences, especially natural philosophy and physic, books be not the only instrumentals; wherein also the beneficence of men hath not been altogether wanting: for we see spheres, globes, astrolabes, maps, and the like, have been provided as appurtenances to astronomy and cosmography, as well as books: we see likewise that some places instituted for physic have annexed the commodity of gardens for simples of all sorts, and do likewise command the use of dead bodies for anatomies. But these do respect but a few things. In general, there will hardly be any main proficience in the disclosing of nature, except there be some allowance for expenses about experiments; whether they be experiments appertaining to Vulcanus or Dædalus, furnace or engine, or any other kind; and therefore as secretaries and spials of princes and states bring in bills for intelligence, so you must allow the spials and intelligencers of nature to bring in their bills; or else you shall be ill advertised.

And if Alexander made such a liberal assignation to Aristotle of treasure for the allowance of hunters, fowlers, fishers, and the like, that he might compile an history of nature, much better do they deserve it that travail in arts of nature.

Another defect which I note, is an intermission or neglect in those which are governors in universities, of consultation; and in princes or superior

persons, of visitation: to enter into account and consideration, whether the readings, exercises, and other customs appertaining unto learning, anciently begun, and since continued, be well instituted or not; and thereupon to ground an amendment or reformation in that which shall be found inconvenient. For it is one of your majesty's own most wise and princely maxims, "That in all usages and precedents, the "times be considered wherein they first began; "which, if they were weak or ignorant, it derogateth "from the authority of the usage, and leaveth it for "suspect." And therefore in as much as most of the usages and orders of the universities were derived from more obscure times, it is the more requisite they be re-examined. In this kind I will give an instance or two, for example sake, of things that are the most obvious and familiar: the one is a matter, which though it be ancient and general, yet I hold to be an error; which is, that scholars in universities come too soon and too unripe to logic and rhetoric, arts fitter for graduates than children and novices: for these two, rightly taken, are the gravest of sciences, being the arts of arts; the one for judgment, the other for ornament: and they be the rules and directions how to set forth and dispose matter; and therefore for minds empty and unfraught with matter, and which have not gathered that which Cicero calleth "sylva" and "supellex," stuff and variety, to begin with those arts, (as if one should learn to weigh, or to measure, or to paint the wind), doth work but this effect, that the wisdom of those

arts, which is great and universal, is almost made contemptible, and is degenerate into childish sophistry and ridiculous affectation. And further, the untimely learning of them hath drawn on, by consequence, the superficial and unprofitable teaching and writing of them, as fittest indeed to the capacity of children. Another is a lack I find in the exercises used in the universities, which do make too great a divorce between invention and memory; for their speeches are either premeditate, "in verbis con-"ceptis," where nothing is left to invention; or merely extemporal, where little is left to memory: whereas in life and action there is least use of either of these, but rather of intermixtures of premeditation and invention, notes and memory; so as the exercise fitteth not the practice, nor the image the life: and it is ever a true rule in exercises, that they be framed as near as may be to the life of practice; for otherwise they do pervert the motions and faculties of the mind, and not prepare them. The truth whereof is not obscure, when scholars come to the practices of professions, or other actions of civil life; which when they set into, this want is soon found by themselves, and sooner by others. But this part, touching the amendment of the institutions and orders of universities, I will conclude with the clause of Cæsar's letter to Oppius and Balbus, "Hoc quemadmodum "fieri possit, nonnulla mihi in mentem veniunt, et "multa reperiri possunt; de iis rebus rogo vos ut "cogitationem suscipiatis."

Another defect, which I note, ascendeth a little

higher than the preceding: for as the proficience of learning consisteth much in the orders and institutions of universities in the same states and kingdoms, so it would be yet more advanced, if there were more intelligence mutual between the universities of Europe than now there is. We see there be many orders and foundations, which though they be divided under several sovereignties and territories, yet they take themselves to have a kind of contract, fraternity, and correspondence one with the other; insomuch as they have provincials and generals. And surely, as nature createth brotherhood in families, and arts mechanical contract brotherhoods in commonalties, and the anointment of God superinduceth a brotherhood in kings and bishops; so in like manner there cannot but be a fraternity in learning and illumination, relating to that fraternity which is attributed to God, who is called the Father of illuminations or lights.

The last defect which I will note is, that there hath not been, or very rarely been, any public designation of writers or inquirers concerning such parts of knowledge as may appear not to have been already sufficiently laboured or undertaken; unto which point it is an inducement to enter into a view and examination what parts of learning have been prosecuted, and what omitted: for the opinion of plenty is amongst the causes of want, and the great quantity of books maketh a shew rather of superfluity than lack; which surcharge, nevertheless, is not to be remedied by making no more books, but

by making more good books, which, as the serpent of Moses, might devour the serpents of the enchanters.

The removing of all the defects formerly enumerated, except the last, and of the active part also of the last, (which is the designation of writers,) are "opera basilica;" towards which the endeavours of a private man may be but as an image in a crossway, that may point at the way, but cannot go it: but the inducing part of the latter, which is the survey of learning, may be set forward by private travel. Wherefore I will now attempt to make a general and faithful perambulation of learning, with an inquiry what parts thereof lie fresh and waste, and not improved and converted by the industry of man; to the end that such a plot, made and recorded to memory, may both minister light to any public designation, and also serve to excite voluntary endeavours: wherein, nevertheless, my purpose is, at this time, to note only omissions and deficiencies, and not to make any redargution of errors, or incomplete prosecutions; for it is one thing to set forth what ground lieth unmanured, and another thing to correct ill husbandry in that which is manured.

In the handling and undertaking of which work I am not ignorant what it is that I do now move and attempt, nor insensible of mine own weakness to sustain my purpose; but my hope is that if my extreme love to learning carry me too far, I may obtain the excuse of affection; for that "it is not "granted to man to love and to be wise." But, I

know well, I can use no other liberty of judgment than I must leave to others; and I, for my part, shall be indifferently glad either to perform myself, or accept from another, that duty of humanity; "Nam qui erranti comiter monstrat viam," &c. I do foresee, likewise, that of those things which I shall enter and register as deficiencies and omissions, many will conceive and censure that some of them are already done and extant; others to be but curiosities, and things of no great use; and others to be of too great difficulty, and almost impossibility to be compassed and effected: but for the two first, I refer myself to the particulars; for the last, touching impossibility, I take it those things are to be held possible which may be done by some person, though not by every one; and which may be done by many, though not by any one; and which may be done in the succession of ages, though not within the hourglass of one man's life; and which may be done by public designation, though not by private endeavour. But, notwithstanding, if any man will take to himself rather that of Solomon, "Dicit piger, Leo "est in via," than that of Virgil, "Possunt quia "posse videntur," I shall be content that my labours be esteemed but as the better sort of wishes; for as it asketh some knowledge to demand a question not impertinent, so it requireth some sense to make a wish not absurd.

The parts of human learning have reference to the three parts of Man's Understanding, which is the seat of learning: History to his Memory, Poesy

to his Imagination, and Philosophy to his Reason. Divine learning receiveth the same distribution; for the spirit of man is the same, though the revelation of oracle and sense be diverse: so as theology consisteth also of the history of the church; of parables, which is divine poesy; and of holy doctrine or precept: for as for that part which seemeth supernumerary, which is prophecy, it is but divine history; which hath that prerogative over human, as the narration may be before the fact as well as after.

History is Natural, Civil, Ecclesiastical, and Literary; whereof the first three I allow as extant, the fourth I note as deficient. For no man hath propounded to himself the general state of learning to be described and represented from age to age, as many have done the works of nature, and the state civil and ecclesiastical; without which the history of the world seemeth to me to be as the statue of Polyphemus with his eye out; that part being wanting which doth most shew the spirit and life of the person: and yet I am not ignorant that in divers particular sciences, as of the jurisconsults, the mathematicians, the rhetoricians, the philosophers, there are set down some small memorials of the schools, authors, and books; and so likewise some barren relations touching the invention of arts or usages. But a just story of learning, containing the antiquities and originals of knowledges and their sects, their inventions, their traditions, their diverse administrations and managings, their flourishings, their oppositions, decays, depressions, oblivions, removes,

with the causes and occasions of them, and all other events concerning learning, throughout the ages of the world, I may truly affirm to be wanting. The use and end of which work I do not so much design for curiosity, or satisfaction of those that are the lovers of learning, but chiefly for a more serious and grave purpose; which is this, in few words, that it will make learned men wise in the use and administration of learning. For it is not St. Augustine's nor St. Ambrose's works that will make so wise a divine, as ecclesiastical history, thoroughly read and observed; and the same reason is of learning.

History of Nature is of three sorts; of nature in course, of nature erring or varying, and of nature altered or wrought; that is, history of creatures, history of marvels, and history of arts. The first of these, no doubt, is extant, and that in good perfection; the two latter are handled so weakly and unprofitably, as I am moved to note them as deficient. For I find no sufficient or competent collection of the works of nature which have a digression and deflexion from the ordinary course of generations, productions, and motions; whether they be singularities of place and region, or the strange events of time and chance, or the effects of yet unknown properties, or the instances of exception to general kinds. It is true, I find a number of books of fabulous experiments and secrets, and frivolous impostures for pleasure and strangeness; but a substantial and severe collection of the heteroclites or irregulars of nature, well examined and described, I find not;

especially not with due rejection of fables and popular errors: for as things now are, if an untruth in nature be once on foot, what by reason of the neglect of examination, and countenance of antiquity, and what by reason of the use of the opinion in similitudes and ornaments of speech, it is never called down.

The use of this work, honoured with a precedent in Aristotle, is nothing less than to give contentment to the appetite of curious and vain wits, as the manner of mirabilaries is to do; but for two reasons, both of great weight; the one to correct the partiality of axioms and opinions, which are commonly framed only upon common and familiar examples; the other because from the wonders of nature is the nearest intelligence and passage towards the wonders of art: for it is no more but by following, and as it were hounding Nature in her wanderings to be able to lead her afterwards to the same place again. Neither am I of opinion, in this history of marvels, that superstitious narrations of sorceries, witchcrafts, dreams, divinations, and the like, where there is an assurance and clear evidence of the fact, be altogether excluded. For it is not yet known in what cases and how far effects attributed to superstition do participate of natural causes: and therefore howsoever the practice of such things is to be condemned, yet from the speculation and consideration of them light may be taken, not only for the discerning of the offences, but for the further disclosing of nature. Neither ought a man to make scruple of entering

into these things for inquisition of truth, as your majesty hath shewed in your own example; who with the two clear eyes of religion and natural philosophy have looked deeply and wisely into these shadows, and yet proved yourself to be of the nature of the sun, which passeth through pollutions, and itself remains as pure as before. But this I hold fit, that these narrations, which have mixture with superstition, be sorted by themselves, and not be mingled with the narrations which are merely and sincerely natural. But as for the narrations touching the prodigies and miracles of religions, they are either not true, or not natural; and therefore impertinent for the story of nature.

For history of Nature wrought or mechanical, I find some collections made of agriculture, and likewise of manual arts; but commonly with a rejection of experiments familiar and vulgar. For it is esteemed a kind of dishonour unto learning to descend to inquiry or meditation upon matters mechanical, except they be such as may be thought secrets, rarities, and special subtilties; which humour of vain and supercilious arrogancy is justly derided in Plato; where he brings in Hippias, a vaunting sophist, disputing with Socrates, a true and unfeigned inquisitor of truth; where the subject being touching beauty, Socrates, after his wandering manner of inductions, put first an example of a fair virgin, and then of a fair horse, and then of a fair pot well glazed, whereat Hippias was offended, and said, "More than for courtesy's sake, he did think

"much to dispute with any that did allege such "base and sordid instances:" whereunto Socrates answered, "You have reason, and it becomes you "well, being a man so trim in your vestments," &c. and so goeth on in an irony. But the truth is, they be not the highest instances that give the securest information; as may be well expressed in the tale so common of the philosopher, that while he gazed upwards to the stars fell into the water; for if he had looked down he might have seen the stars in the water, but looking aloft he could not see the water in the stars. So it cometh often to pass, that mean and small things discover great, better than great can discover the small: and therefore Aristotle noteth well, "that the nature "of every thing is best seen in its smallest portions." And for that cause he inquireth the nature of a commonwealth, first in a family, and the simple conjugations of man and wife, parent and child, master and servant, which are in every cottage. Even so likewise the nature of this great city of the world, and the policy thereof, must be first sought in mean concordances and small portions. So we see how that secret of nature, of the turning of iron touched with the loadstone towards the north, was found out in needles of iron, not in bars of iron.

But if my judgment be of any weight, the use of History Mechanical is of all others the most radical and fundamental towards natural philosophy; such natural philosophy as shall not vanish in the fume of

subtile, sublime, or delectable speculation, but such as shall be operative to the endowment and benefit of man's life: for it will not only minister and suggest for the present many ingenious practices in all trades, by a connexion and transferring of the observations of one art to the use of another, when the experiences of several mysteries shall fall under the consideration of one man's mind; but further, it will give a more true and real illumination concerning causes and axioms than is hitherto attained. For like as a man's disposition is never well known till he be crossed, nor Proteus ever changed shapes till he was straitened and held fast; so the passages and variations of nature cannot appear so fully in the liberty of nature, as in the trials and vexations of art.

For Civil History, it is of three kinds; not unfitly to be compared with the three kinds of pictures or images: for of pictures or images, we see, some are unfinished, some are perfect, and some are defaced. So of histories we may find three kinds, Memorials, Perfect Histories, and Antiquities; for Memorials are history unfinished, or the first or rough draughts of history; and Antiquities are history defaced, or some remnants of history which have casually escaped the shipwreck of time.

Memorials, or preparatory history, are of two sorts; whereof the one may be termed Commentaries, and the other Registers. Commentaries are they which set down a continuance of the naked events and actions, without the motives or designs,

the counsels, the speeches, the pretexts, the occasions and other passages of action: for this is the true nature of a Commentary; though Cæsar, in modesty mixed with greatness, did for his pleasure apply the name of a Commentary to the best history of the world. Registers are collections of public acts, as decrees of council, judicial proceedings, declarations and letters of state, orations and the like, without a perfect continuance or contexture of the thread of the narration.

"Antiquities, or remnants of history, are, as was said, "tanquam tabula naufragii;" when industrious persons, by an exact and scrupulous diligence and observation, out of monuments, names, words, proverbs, traditions, private records and evidences, fragments of stories, passages of books that concern not story, and the like, do save and recover somewhat from the deluge of time.

In these kinds of imperfect histories I do assign no deficience, for they are "tanquam imperfecte "mista;" and therefore any deficience in them is but their nature. As for the corruptions and moths of history, which are Epitomes, the use of them deserveth to be banished, as all men of sound judgment have confessed; as those that have fretted and corroded the sound bodies of many excellent histories, and wrought them into base and unprofitable dregs.

History, which may be called Just and Perfect History, is of three kinds, according to the object which it propoundeth, or pretendeth to represent:

for it either representeth a time, or a person, or an action. The first we call Chronicles, the second Lives, and the third Narrations or Relations. Of these, although the first be the most complete and absolute kind of history, and hath most estimation and glory, yet the second excelleth it in profit and use, and the third in verity and sincerity: for history of times representeth the magnitude of actions, and the public faces and deportments of persons, and passeth over in silence the smaller passages and motions of men and matters. But such being the workmanship of God, as he doth hang the greatest weight upon the smallest wires, "maxima è minimis suspendens," it comes therefore to pass, that such histories do rather set forth the pomp of business than the true and inward resorts thereof. But Lives, if they be well written, propounding to themselves a person to represent in whom actions both greater and smaller, public and private, have a commixture, must of necessity contain a more true, native, and lively representation. So again narrations and relations of actions, as the War of Peloponnesus, the Expedition of Cyrus Minor, the Conspiracy of Catiline, cannot but be more purely and exactly true than histories of times, because they may choose an argument comprehensible within the notice and instructions of the writer: whereas he that undertaketh the story of a time, especially of any length, cannot but meet with many blanks and spaces which he must be forced to fill up out of his own wit and conjecture.

For the History of Times, I mean of Civil history, the providence of God hath made the distribution: for it hath pleased God to ordain and illustrate two exemplar states of the world for arms, learning, moral virtue, policy, and laws; the state of Græcia, and the state of Rome; the histories whereof occupying the middle part of time, have, more ancient to them, histories which may by one common name be termed the Antiquities of the world; and after them, histories which may be likewise called by the name of Modern History.

Now to speak of the deficiencies. As to the heathen antiquities of the world, it is in vain to note them for deficient: deficient they are no doubt, consisting most of fables and fragments; but the deficience cannot be holpen; for antiquity is like fame, "caput inter nubila condit," her head is muffled from our sight. For the history of the exemplar states, it is extant in good perfection. Not but I could wish there were a perfect course of history for Græcia from Theseus to Philopœmen, (what time the affairs of Græcia were drowned and extinguished in the affairs of Rome;) and for Rome from Romulus to Justinianus, who may be truly said to be "ultimus "Romanorum." In which sequences of story the text of Thucydides and Xenophon in the one, and the text of Livius, Polybius, Sallustius, Cæsar, Appianus, Tacitus, Herodianus in the other, to be kept entire without any diminution at all, and only to be supplied and continued. But this is matter of magnificence, rather to be commended than required:

and we speak now of parts of learning supplemental, and not of supererogation.

But for modern Histories, whereof there are some few very worthy, but the greater part beneath mediocrity, (leaving the care of foreign stories to foreign states, because I will not be "curiosus in "aliena republica,") I cannot fail to represent to your majesty the unworthiness of the history of England in the main continuance thereof, and the partiality and obliquity of that of Scotland in the latest and largest author that I have seen: supposing that it would be honour for your majesty, and a work very memorable, if this island of Great Britain, as it is now joined in monarchy for the ages to come, so were joined in one history for the times passed; after the manner of the sacred history, which draweth down the story of the ten tribes and of the two tribes, as twins, together. And if it shall seem that the greatness of this work may make it less exactly performed, there is an excellent period of a much smaller compass of time, as to the story of England; that is to say, from the uniting of the roses to the uniting of the kingdoms; a portion of time, wherein, to my understanding, there hath been the rarest varieties that in like number of successions of any hereditary monarchy hath been known: for it beginneth with the mixed adoption of a crown by arms and title; an entry by battle, an establishment by marriage: and therefore times answerable, like waters after a tempest, full of working and swelling, though without extremity of storm; but well passed

through by the wisdom of the pilot, being one of the most sufficient kings of all the number. Then followeth the reign of a king, whose actions, howsoever conducted, had much intermixture with the affairs of Europe, balancing and inclining them variably; in whose time also began that great alteration in the state ecclesiastical, an action which seldom cometh upon the stage. Then the reign of a minor: then an offer of an usurpation, though it was but as "fe-"bris ephemera:" then the reign of a queen matched with a foreigner: then of a queen that lived solitary and unmarried, and yet her government so masculine that it had greater impression and operation upon the states abroad than it any ways received from thence. And now last, this most happy and glorious event, that this island of Britain, divided from all the world, should be united in itself: and that oracle of rest, given to Æneas, "Antiquam exquirite matrem," should now be performed and fulfilled upon the nations of England and Scotland, being now reunited in the ancient mother name of Britain, as a full period of all instability and peregrinations: so that as it cometh to pass in massive bodies, that they have certain trepidations and waverings before they fix and settle; so it seemeth that by the providence of God this monarchy, before it was to settle in your majesty and your generations, (in which, I hope, it is now established for ever,) had these prelusive changes and varieties.

For Lives, I do find it strange that these times

have so little esteemed the virtues of the times, as that the writing of lives should be no more frequent. For although there be not many sovereign princes or absolute commanders, and that states are most collected into monarchies, yet are there many worthy personages that deserve better than dispersed report or barren eulogies. For herein the invention of one of the late poets is proper, and doth well enrich the ancient fiction: for he feigneth that at the end of the thread or web of every man's life there was a little medal containing the person's name, and that Time waited upon the shears; and as soon as the thread was cut, caught the medals, and carried them to the river of Lethe; and about the bank there were many birds flying up and down, that would get the medals and carry them in their beak a little while, and then let them fall into the river: only there were a few swans, which if they got a name, would carry it to a temple where it was consecrated.

And although many men, more mortal in their affections than in their bodies, do esteem desire of name and memory but as a vanity and ventosity,

"Animi nil magnæ laudis egentes;"

which opinion cometh from that root, "non prius "laudes contempsimus, quam laudanda facere desivi-"mus;" yet that will not alter Solomon's judgment, "Memoria justi cum laudibus, at impiorum nomen "putrescet:" the one flourisheth, the other either consumeth to present oblivion, or turneth to an ill odour.

And therefore in that style or addition, which is and hath been long well received and brought in use, "felicis memoriæ, piæ memoriæ, bonæ memoriæ," we do acknowledge that which Cicero saith, borrowing it from Demosthenes, that "bona fama propria possessio defunctorum;" which possession I cannot but note that in our times it lieth much waste, and that therein there is a deficience.

For "Narrations and Relations" of particular actions, there were also to be wished a greater diligence therein: for there is no great action but hath some good pen which attends it. And because it is an ability not common to write a good history, as may well appear by the small number of them; yet if particularity of actions memorable were but tolerably reported as they pass, the compiling of a complete history of times might be the better expected, when a writer should arise that were fit for it: for the collection of such relations might be as a nursery garden, whereby to plant a fair and stately garden, when time should serve.

There is yet another portion of history which Cornelius Tacitus maketh, which is not to be forgot, especially with that application which he accoupleth it withal, "Annals and Journals:" appropriating to the former matters of estate, and to the latter acts and accidents of a meaner nature. For giving but a touch of certain magnificent buildings, he addeth, "Cum ex dignitate populi Romani repertum sit, res illustres annalibus, talia diurnis urbis

"actis mandare." So as there is a kind of contemplative heraldry, as well as civil. And as nothing doth derogate from the dignity of a state more than confusion of degrees; so it doth not a little embase the authority of an history, to intermingle matters of triumph, or matters of ceremony, or matters of novelty, with matters of state. But the use of a journal hath not only been in the history of time, but likewise in the history of persons, and chiefly of actions; for princes in ancient time had, upon point of honour and policy both, journals kept of what passed day by day: for we see the Chronicle which was read before Ahasuerus, when he could not take rest, contained matter of affairs indeed, but such as had passed in his own time, and very lately before: but the journal of Alexander's house expressed every small particularity, even concerning his person and court; and it is yet an use well received in enterprises memorable, as expeditions of war, navigations, and the like, to keep diaries of that which passeth continually.

I cannot likewise be ignorant of a form of writing which some grave and wise men have used, containing a scattered history of those actions which they have thought worthy of memory, with politic discourse and observation thereupon: not incorporated into the history, but separately, and as the more principal in their intention; which kind of ruminated history I think more fit to place amongst books of policy, whereof we shall hereafter speak, than amongst books of history: for it is the true

office of history to represent the events themselves together with the counsels, and to leave the observations and conclusions thereupon to the liberty and faculty of every man's judgment: but mixtures are things irregular, whereof no man can define.

So also is there another kind of history manifoldly mixed, and that is History of Cosmography: being compounded of natural history, in respect of the regions themselves; of history civil, in respect of the habitations, regiments, and manners of the people; and the mathematics, in respect of the climates and configurations towards the heavens: which part of learning of all others, in this latter time, hath obtained most proficience. For it may be truly affirmed to the honour of these times, and in a virtuous emulation with antiquity, that this great building of the world had never thorough lights made in it, till the age of us and our fathers: for although they had knowledge of the antipodes,

> "Nosque ubi primus equis oriens afflavit anhelis,
> Illic sera rubens accendit lumina Vesper:"

yet that might be by demonstration, and not in fact; and if by travel, it requireth the voyage but of half the globe. But to circle the earth, as the heavenly bodies do, was not done nor enterprised till these latter times: and therefore these times may justly bear in their word, not only "plus ultra," in precedence of the ancient "non ultra," and "imitabile fulmen" in precedence of the ancient "non imitabile fulmen,"

> "Demens qui nimbos et non imitabile fulmen;" &c.

but likewise "imitabile cœlum;" in respect of the many memorable voyages, after the manner of heaven, about the globe of the earth.

And this proficience in navigation and discoveries may plant also an expectation of the further proficience and augmentation of all sciences; because it may seem they are ordained by God to be coevals, that is, to meet in one age. For so the prophet Daniel, speaking of the latter times, foretelleth, "Plurimi pertransibunt, et multiplex erit scientia:" as if the openness and thorough passage of the world and the increase of knowledge were appointed to be in the same ages; as we see it is already performed in great part: the learning of these latter times not much giving place to the former two periods or returns of learning, the one of the Grecians, the other of the Romans.

History ecclesiastical receiveth the same divisions with history civil: but further, in the propriety thereof, may be divided into the History of the church, by a general name; History of prophecy; and History of providence. The first describeth the times of the "militant church," whether it be fluctuant, as the ark of Noah; or moveable, as the ark in the wilderness; or at rest, as the ark in the temple: that is, the state of the church in persecution, in remove, and in peace. This part I ought in no sort to note as deficient; only I would that the virtue and sincerity of it were according to the mass and quantity. But I am not now in hand with censures, but with omissions.

The second, which is history of "prophecy," consisteth of two relatives, the prophecy, and the accomplishment; and therefore the nature of such a work ought to be, that every prophecy of the scripture be sorted with the event fulfilling the same, throughout the ages of the world; both for the better confirmation of faith, and for the better illumination of the church touching those parts of prophecies which are yet unfulfilled: allowing nevertheless that latitude which is agreeable and familiar unto divine prophecies; being of the nature of their author, with whom a thousand years are but as one day; and therefore are not fulfilled punctually at once, but have springing and germinant accomplishment throughout many ages; though the height or fulness of them may refer to some one age. This is a work which I find deficient; but is to be done with wisdom, sobriety, and reverence, or not at all.

The third, which is history of "providence," containeth that excellent correspondence which is between God's revealed will and his secret will: which though it be so obscure, as for the most part it is not legible to the natural man; no, nor many times to those that behold it from the tabernacle; yet at some times it pleaseth God, for our better establishment and the confuting of those which are as without God in the world, to write it in such text and capital letters, that as the prophet saith, "he that "runneth by may read it;" that is, mere sensual persons, which hasten by God's judgments and never bend or fix their cogitations upon them, are neverthe-

less in their passage and race urged to discern it. Such are the notable events and examples of God's judgments, chastisements, deliverances, and blessings: and this is a work which hath passed through the labours of many, and therefore I cannot present as omitted.

There are also other parts of learning which are Appendices to history: for all the exterior proceedings of man consist of words and deeds; whereof history doth properly receive and retain in memory the deeds; and if words, yet but as inducements and passages to deeds: so are there other books and writings, which are appropriate to the custody and receipt of words only; which likewise are of three sorts; Orations, Letters, and brief Speeches or Sayings. Orations are pleadings, speeches of counsel, laudatives, invectives, apologies, reprehensions, orations of formality or ceremony, and the like. Letters are according to all the variety of occasions, advertisements, advices, directions, propositions, petitions, commendatory, expostulatory, satisfactory; of compliment, of pleasure, of discourse, and all other passages of action. And such as are written from wise men, are of all the words of man, in my judgment, the best; for they are more natural than orations and public speeches, and more advised than conferences or present speeches. So again letters of affairs from such as manage them, or are privy to them, are of all others the best instructions for history, and to a diligent reader the best histories in themselves. For Apophthegms, it is a great

loss of that book of Cæsar's; for as his history, and those few letters of his which we have, and those apophthegms which were of his own, excel all men's else, so I suppose would his collection of apophthegms have done; for as for those which are collected by others, either I have no taste in such matters, or else their choice hath not been happy. But upon these three kinds of writings I do not insist, because I have no deficiencies to propound concerning them.

Thus much therefore concerning history; which is that part of learning which answereth to one of the cells, domiciles, or offices of the mind of man; which is that of the Memory.

Poesy is a part of learning in measure of words for the most part restrained, but in all other points extremely licensed, and doth truly refer to the imagination; which, being not tied to the laws of matter, may at pleasure join that which nature hath severed, and sever that which nature hath joined; and so make unlawful matches and divorces of things; "Pictoribus atque poetis, &c." It is taken in two senses, in respect of words, or matter; in the first sense it is but a character of style, and belongeth to arts of speech, and is not pertinent for the present: in the latter, it is, as hath been said, one of the principal portions of learning, and is nothing else but feigned history, which may be styled as well in prose as in verse.

The use of this feigned history hath been to give some shadow of satisfaction to the mind of man in

those points wherein the nature of things doth deny it, the world being in proportion inferior to the soul; by reason whereof there is, agreeable to the spirit of man, a more ample greatness, a more exact goodness, and a more absolute variety, than can be found in the nature of things. Therefore, because the acts or events of true history have not that magnitude which satisfieth the mind of man, poesy feigneth acts and events greater and more heroical: because true history propoundeth the successes and issues of actions not so agreeable to the merits of virtue and vice, therefore poesy feigns them more just in retribution, and more according to revealed providence: because true history representeth actions and events more ordinary, and less interchanged, therefore poesy endueth them with more rareness, and more unexpected and alternative variations: so as it appeareth that, poesy serveth and conferreth to magnanimity, morality, and to delectation. And therefore it was ever thought to have some participation of divineness, because it doth raise and erect the mind, by submitting the shews of things to the desires of the mind; whereas reason doth buckle and bow the mind unto the nature of things. And we see, that by these insinuations and congruities with man's nature and pleasure, joined also with the agreement and consort it hath with music, it hath had access and estimation in rude times and barbarous regions, where other learning stood excluded.

The division of poesy which is aptest in the propriety thereof, (besides those divisions which are

common unto it with history, as feigned chronicles, feigned lives, and the appendices of history, as feigned epistles, feigned orations, and the rest) is into Poesy Narrative, Representative, and Allusive.

The Narrative is a mere imitation of history, with the excesses before remembered; choosing for subject commonly wars and love, rarely state, and sometimes pleasure or mirth.

Representative is as a visible history; and is an image of actions as if they were present, as history is of actions in nature as they are, that is past.

Allusive or parabolical is a narration applied only to express some special purpose or conceit: which latter kind of parabolical wisdom was much more in use in the ancient times, as by the fables of Æsop, and the brief sentences of the Seven, and the use of hieroglyphics, may appear. And the cause was, for that it was then of necessity to express any point of reason, which was more sharp or subtile than the vulgar in that manner; because men in those times wanted both variety of examples and subtilty of conceit: and as hieroglyphics were before letters, so parables were before arguments: And nevertheless now, and at all times, they do retain much life and vigour; because reason cannot be so sensible, nor examples so fit.

But there remaineth yet another use of poesy parabolical, opposite to that which we last mentioned: for that tendeth to demonstrate and illustrate that which is taught or delivered, and this other to retire

and obscure it: that is, when the secrets and mysteries of religion, policy, or philosophy, are involved in fables or parables. Of this in divine poesy we see the use is authorized. In heathen poesy we see the exposition of fables doth fall out sometimes with great felicity; as in the fable that the giants being overthrown in their war against the gods, the Earth their mother in revenge thereof brought forth Fame:

> "Illam Terra parens, irâ irritata deorum,
> "Extremam, ut perhibent, Cœo Enceladoque sororem
> "Progenuit."

expounded, that when Princes and Monarchs have suppressed actual and open rebels, then the malignity of the people, which is the mother of rebellion, doth bring forth libels and slanders, and taxations of the state, which is of the same kind with rebellion, but more feminine. So in the fable, that the rest of the gods having conspired to bind Jupiter, Pallas called Briareus with his hundred hands to his aid, expounded, that monarchies need not fear any curbing of their absoluteness by mighty subjects, as long as by wisdom they keep the hearts of the people, who will be sure to come in on their side. So in the fable, that Achilles was brought up under Chiron the Centaur, who was part a man and part a beast, expounded ingeniously, but corruptly by Machiavel, that it belongeth to the education and discipline of princes to know as well how to play the part of the lion in violence, and the fox in guile, as of the man

in virtue and justice. Nevertheless, in many the like encounters, I do rather think that the fable was first, and the exposition then devised, than that the moral was first, and thereupon the fable framed. For I find it was an ancient vanity in Chrysippus, that troubled himself with great contention to fasten the assertions of the Stoics upon the fictions of the ancient poets; but yet that all the fables and fictions of the poets were but pleasure and not figure, I interpose no opinion. Surely of those poets which are now extant, even Homer himself, (notwithstanding he was made a kind of Scripture by the latter schools of the Grecians,) yet I should without any difficulty pronounce that his fables had no such inwardness in his own meaning; but what they might have upon a more original tradition, is not easy to affirm; for he was not the inventor of many of them.

In this third part of learning, which is poesy, I can report no deficience. For being as a plant that cometh of the lust of the earth, without a formal seed, it hath sprung up and spread abroad more than any other kind: but to ascribe unto it that which is due, for the expressing of affections, passions, corruptions, and customs, we are beholding to poets more than to the philosophers' works; and for wit and eloquence, not much less than to orators' harangues. But it is not good to stay too long in the theatre. Let us now pass on to the judicial place or palace of the mind, which we are to approach and view with more reverence and attention.

The knowledge of man is as the waters, some descending from above, and some springing from beneath; the one informed by the light of nature, the other inspired by divine revelation. The light of nature consisteth in the notions of the mind and the reports of the senses: for as for knowledge which man receiveth by teaching, it is cumulative and not original; as in a water that, besides his own spring-head, is fed with other springs and streams. So then, according to these two differing illuminations or originals, knowledge is first of all divided into Divinity and Philosophy.

In Philosophy, the contemplations of man do either penetrate unto God,—or are circumferred to nature,—or are reflected or reverted upon himself. Out of which several inquiries there do arise three knowledges, Divine philosophy, Natural philosophy, and Human philosophy or Humanity. For all things are marked and stamped with this triple character, of the power of God, the difference of nature, and the use of man. But because the distributions and partitions of knowledge are not like several lines that meet in one angle, and so touch but in a point; but are like branches of a tree, that meet in a stem, which hath a dimension and quantity of entireness and continuance, before it come to discontinue and break itself into arms and boughs; therefore it is good, before we enter into the former distribution, to erect and constitute one universal science, by the name of "Philosophia Prima," primitive or summary philosophy,

as the main and common way, before we come where the ways part and divide themselves; which science whether I should report as deficient or not, I stand doubtful. For I find a certain rhapsody of natural theology, and of divers parts of logic; and of that part of natural philosophy which concerneth the principles; and of that other part of natural philosophy which concerneth the soul or spirit: all these strangely commixed and confused; but being examined, it seemeth to me rather a depredation of other sciences, advanced and exalted unto some height of terms, than any thing solid or substantive of itself. Nevertheless I cannot be ignorant of the distinction which is current, that the same things are handled but in several respects. As for example, that logic considereth of many things as they are in notion, and this philosophy as they are in nature; the one in appearance, the other in existence; but I find this difference better made than pursued. For if they had considered quantity, similitude, diversity, and the rest of those external characters of things, as philosophers, and in nature, their inquiries must of force have been of a far other kind than they are. For doth any of them, in handling quantity, speak of the force of union, how and how far it multiplieth virtue? Doth any give the reason, why some things in nature are so common, and in so great mass, and others so rare, and in so small quantity? Doth any, in handling similitude and diversity, assign the cause why iron should not move to iron, which is more like, but move to the loadstone, which

is less like? Why in all diversities of things there should be certain participles in nature, which are almost ambiguous to which kind they should be referred? But there is a mere and deep silence touching the nature and operation of those common adjuncts of things, as in nature; and only a resuming and repeating of the force and use of them in speech or argument. Therefore, because in a writing of this nature I avoid all subtility, my meaning touching this original or universal philosophy is thus, in a plain and gross description by negative: "That it be a receptacle for all "such profitable observations and axioms as fall "not within the compass of any of the special "parts of philosophy or sciences, but are more com-"mon and of a higher stage."

Now that there are many of that kind, need not to be doubted. For example; is not the rule, "Si "inæqualibus æqualia addas, omnia erunt inæqualia," an axiom as well of justice as of the mathematics? And is there not a true coincidence between commutative and distributive justice, and arithmetical and geometrical proportion? Is not that other rule, "Quæ in eodem tertio conveniunt, et inter se con-"veniunt," a rule taken from the mathematics, but so potent in logic as all syllogisms are built upon it? Is not the observation, "Omnia mutantur, nil interit," a contemplation, in philosophy thus, that the quantum of nature is eternal? in natural theology thus, that it requireth the same omnipotence to make somewhat nothing, which at the first made nothing

somewhat? according to the scripture, "Didici quod "omnia opera, quæ fecit Deus, perseverent in perpe-"tuum; non possumus eis quicquam addere nec au-"ferre." Is not the ground, which Machiavel wisely and largely discourseth concerning governments, that the way to establish and preserve them is to reduce them "ad principia," a rule in religion and nature, as well as in civil administration? Was not the Persian magic a reduction or correspondence of the principles and architectures of nature to the rules and policy of governments? Is not the precept of a musician, to fall from a discord or harsh accord upon a concord or sweet accord, alike true in affection? Is not the trope of music, to avoid or slide from the close or cadence, common with the trope of rhetoric of deceiving expectation? Is not the delight of the quavering upon a stop in music the same with the playing of light upon the water?

"Splendet tremulo sub lumine pontus:"

Are not the organs of the senses of one kind with the organs of reflection, the eye with a glass, the ear with a cave or strait determined and bounded? Neither are these only similitudes, as men of narrow observation may conceive them to be, but the same footsteps of nature, treading or printing upon several subjects or matters. This science, therefore, as I understand it, I may justly report as deficient: for I see sometimes the profounder sort of wits, in handling some particular argument, will now and then draw a bucket of water out of this well for their present use; but the spring-

head thereof seemeth to me not to have been visited: being of so excellent use, both for the disclosing of nature, and the abridgement of art.

This science being therefore first placed as a common parent, like unto Berecynthia, which had so much heavenly issue,

"Omnes cœlicolas, omnes super alta tenentes:"

we may return to the former distribution of the three philosophies, divine, natural, and human.

And as concerning Divine Philosophy or Natural Theology, it is that knowledge or rudiment of knowledge concerning God, which may be obtained by the contemplation of his creatures; which knowledge may be truly termed divine in respect of the object, and natural in respect of the light. The bounds of this knowledge are, that it sufficeth to convince atheism, but not to inform religion: and therefore there was never miracle wrought by God to convert an atheist, because the light of nature might have led him to confess a God: but miracles have been wrought to convert idolaters and the superstitious, because no light of nature extendeth to declare the will and true worship of God. For as all works do shew forth the power and skill of the workman, and not his image; so it is of the works of God, which do shew the omnipotency and wisdom of the maker, but not his image; and therefore therein the heathen opinion differeth from the sacred truth; for they supposed the world to be the image of God, and man to be an extract or com-

pendious image of the world; but the Scriptures never vouchsafe to attribute to the world that honour, as to be the image of God, but only the work of his hands; neither do they speak of any other image of God, but man: wherefore by the contemplation of nature to induce and inforce the acknowledgement of God, and to demonstrate his power, providence, and goodness, is an excellent argument, and hath been excellently handled by divers.

But on the other side, out of the contemplation of nature, or ground of human knowledge, to induce any verity or persuasion concerning the points of faith, is in my judgment not safe: "Da fidei quæ "fidei sunt." For the heathens themselves conclude as much in that excellent and divine fable of the golden chain: "That men and gods were not able "to draw Jupiter down to the earth; but contra-"riwise, Jupiter was able to draw them up to "heaven."

So as we ought not to attempt to draw down or submit the mysteries of God to our reason; but contrariwise to raise and advance our reason to the divine truth. So as in this part of knowledge, touching divine philosophy, I am so far from noting any deficience, as I rather note an excess: whereunto I have digressed; because of the extreme prejudice which both religion and phylosophy have received and may receive, by being commixed together; as that which undoubtedly will make an heretical religion, and an imaginary and fabulous philosophy.

Otherwise it is of the nature of angels and

spirits, which is an appendix of theology, both divine and natural, and is neither inscrutable nor interdicted; for although the Scripture saith, "Let no "man deceive you in sublime discourse touching the "worship of angels, pressing into that he knoweth "not," &c. yet, notwithstanding, if you observe well that precept it may appear thereby that there be two things only forbidden, adoration of them, and opinion fantastical of them; either to extol them farther than appertaineth to the degree of a creature, or to extol a man's knowledge of them farther than he hath ground. But the sober and grounded inquiry, which may arise out of the passages of holy Scriptures, or out of the gradations of nature, is not restrained. So of degenerate and revolted spirits, the conversing with them or the employment of them is prohibited, much more any veneration towards them: but the contemplation or science of their nature, their power, their illusions, either by Scripture or reason, is a part of spiritual wisdom. For so the apostle saith, "We are not ignorant of "his stratagems." And it is no more unlawful to inquire the nature of evil spirits, than to inquire the force of poisons in nature, or the nature of sin and vice in morality. But this part touching angels and spirits, I cannot note as deficient, for many have occupied themselves in it; I may rather challenge it, in many of the writers thereof, as fabulous and fantastical.

Leaving therefore divine philosophy or natural theology (not divinity or inspired theology, which we

reserve for the last of all, as the haven and sabbath of all man's contemplations) we will now proceed to Natural Philosophy.

If then it be true that Democritus said; "That "the truth of nature lieth hid in certain deep mines "and caves:" and if it be true likewise that the alchemists do so much inculcate, that Vulcan is a second nature, and imitateth that dexterously and compendiously, which nature worketh by ambages and length of time, it were good to divide natural philosophy into the mine and the furnace; and to make two professions or occupations of natural philosophers, some to be pioneers and some smiths; some to dig, and some to refine and hammer: and surely I do best allow of a division of that kind, though in more familiar and scholastical terms; namely, that these be the two parts of natural philosophy,—the inquisition of causes, and the production of effects; speculative, and operative; natural science, and natural prudence. For as in civil matters there is a wisdom of discourse, and a wisdom of direction; so is it in natural. And here I will make a request, that for the latter, or at least for a part thereof, I may revive and reintegrate the misapplied and abused name of Natural Magic; which, in the true sense, is but natural wisdom, or natural prudence; taken according to the ancient acceptation, purged from vanity and superstition. Now although it be true, and I know it well, that there is an intercourse between causes and effects, so as both these knowledges,

speculative and operative, have a great connection between themselves; yet because all true and fruitful natural philosophy hath a double scale or ladder, ascendent and descendent; ascending from experiments to the invention of causes, and descending from causes to the invention of new experiments; therefore I judge it most requisite that these two parts be severally considered and handled.

Natural Science or Theory is divided into Physique and Metaphysique: wherein I desire it may be conceived that I use the word metaphysique in a differing sense from that that is received: and in like manner, I doubt not but it will easily appear to men of judgment, that in this and other particulars, wheresoever my conception and notion may differ from the ancient, yet I am studious to keep the ancient terms. For hoping well to deliver myself from mistaking, by the order and perspicuous expressing of that I do propound; I am otherwise zealous and affectionate to recede as little from antiquity, either in terms or opinions, as may stand with truth and the proficience of knowledge. And herein I cannot a little marvel at the philosopher Aristotle, that did proceed in such a spirit of difference and contradiction towards all antiquity: undertaking not only to frame new words of science at pleasure, but to confound and extinguish all ancient wisdom: insomuch as he never nameth or mentioneth an ancient author or opinion, but to confute and reprove; wherein

for glory, and drawing followers and disciples, he took the right course. For certainly there cometh to pass, and hath place in human truth, that which was noted and pronounced in the highest truth: "Veni in nomine Patris, nec recipitis me; "si quis venerit in nomine suo, eum recipietis." But in this divine aphorism, (considering to whom it was applied, namely to Antichrist, the highest deceiver,) we may discern well that the coming in a man's own name, without regard of antiquity or paternity, is no good sign of truth, although it be joined with the fortune and success of an "Eum "recipietis." But for this excellent person Aristotle, I will think of him that he learned that humour of his scholar, with whom, it seemeth, he did emulate; the one to conquer all opinions, as the other to conquer all nations: wherein nevertheless, it may be, he may at some men's hands, that are of a bitter disposition, get a like title as his scholar did:

> "Felix terrarum prædo, non utile mundo
> "Editus exemplum, &c."

So,

> "Felix doctrinæ prædo."

But to me, on the other side, that do desire as much as lieth in my pen to ground a sociable intercourse between antiquity and proficience, it seemeth best to keep way with antiquity "usque ad aras;" and therefore to retain the ancient terms, though I sometimes alter the uses and definitions, according to the moderate proceeding in civil government; where

although there be some alteration, yet that holdeth which Tacitus wisely noteth, "eadem magistratuum "vocabula."

To return therefore to the use and acceptation of the term Metaphysique, as I do now understand the word; it appeareth, by that which hath been already said, that I intend "philosophia prima," Summary Philosophy, and Metaphysique, which heretofore have been confounded as one, to be two distinct things. For, the one I have made as a parent or common ancestor to all knowledge; and the other I have now brought in as a branch or descendent of natural science. It appeareth likewise that I have assigned to Summary Philosophy the common principles and axioms which are promiscuous and indifferent to several sciences: I have assigned unto it likewise the inquiry touching the operation of the relative and adventitious characters of essences, as quantity, similitude, diversity, possibility, and the rest: with this distinction and provision; that they be handled as they have efficacy in nature, and not logically. It appeareth likewise, that Natural Theology, which heretofore hath been handled confusedly with Metaphysique, I have inclosed and bounded by itself. It is therefore now a question what is left remaining for Metaphysique; wherein I may without prejudice preserve thus much of the conceit of antiquity, that Physique should contemplate that which is inherent in matter, and therefore transitory; and metaphysic that which is abstracted and fixed. And again, that Physique should handle that which

supposeth in nature only a being and moving; and Metaphysique should handle that which supposeth further in nature a reason, understanding, and platform. But the difference, perspicuously expressed, is most familiar and sensible. For as we divided natural philosophy in general into the inquiry of causes, and productions of effects; so that part which concerneth the inquiry of causes we do subdivide according to the received and sound division of causes; the one part, which is Physique, inquireth and handleth the material and efficient causes; and the other, which is Metaphysique, handleth the formal and final causes.

Physique, taking it according to the derivation, and not according to our idiom for medicine, is situate in a middle term or distance between natural history and Metaphysique. For natural history describeth the variety of things; Physique, the causes, but variable or respective causes; and Metaphysique, the fixed and constant causes.

> "Limus ut hic durescit, et hæc ut cera liquescit,
> "Uno eodemque igni:"

Fire is the cause of induration, but respective to clay; fire is the cause of colliquation, but respective to wax; but fire is no constant cause either of induration or colliquation: so then the physical causes are but the efficient and the matter. Physique hath three parts; whereof two respect nature united or collected, the third contemplateth nature diffused or distributed.

Nature is collected either into one entire total, or else into the same principles or seeds. So as the first doctrine is touching the contexture or configuration of things, as "de mundo, de universitate "rerum." The second is the doctrine concerning the principles or originals of things. The third is the doctrine concerning all variety and particularity of things; whether it be of the differing substances, or their differing qualities and natures; whereof there needeth no enumeration, this part being but as a gloss, or paraphrase, that attendeth upon the text of natural history. Of these three I cannot report any as deficient. In what truth or perfection they are handled, I make not now any judgment: but they are parts of knowledge not deserted by the labour of man.

For Metaphysique, we have assigned unto it the inquiry of formal and final causes; which assignation, as to the former of them, may seem to be nugatory and void; because of the received and inveterate opinion, that the inquisition of man is not competent to find out essential forms or true differences: of which opinion we will take this hold, that the invention of forms is of all other parts of knowledge the worthiest to be sought, if it be possible to be found. As for the possibility, they are ill discoverers that think there is no land, when they can see nothing but sea. But it is manifest that Plato, in his opinion of ideas, as one that had a wit of elevation situate as upon a cliff, did descry, "That forms were the true object of

"knowledge;" but lost the real fruit of his opinion, by considering of forms as absolutely abstracted from matter, and not confined and determined by matter; and so turning his opinion upon theology, wherewith all his natural philosophy is infected. But if any man shall keep a continual watchful and severe eye upon action, operation, and the use of knowledge, he may advise and take notice what are the forms, the disclosures whereof are fruitful and important to the state of man. For as to the forms of substances, man only except, of whom it is said, "Formavit hominem de limo terræ, et spiravit "in faciem ejus spiraculum vitæ," and not as of all other creatures, "Producant aquæ, producat terra;" the forms of substances, I say, as they are now by compounding and transplanting multiplied, are so perplexed, as they are not to be inquired; no more than it were either possible or to purpose to seek in gross the forms of those sounds which make words, which by composition and transposition of letters are infinite. But, on the other side, to inquire the form of those sounds or voices which make simple letters, is easily comprehensible; and being known, induceth and manifesteth the forms of all words, which consist and are compounded of them. In the same manner to inquire the form of a lion, of an oak, of gold; nay, of water, of air, is a vain pursuit: but to inquire the forms of sense, of voluntary motion, of vegetation, of colours of gravity and levity, of density, of tenuity, of heat, of cold, and all other natures and qualities, which,

like an alphabet, are not many, and of which the essences, upheld by matter, of all creatures do consist; to inquire, I say, the true forms of these, is that part of Metaphysique which we now define of. Not but that physic doth make inquiry, and take consideration of the same natures: but how? Only as to the material and efficient causes of them, and not as to the forms. For example; if the cause of whiteness in snow or froth be inquired, and it be rendered thus, that the subtile intermixture of air and water is the cause, it is well rendered; but nevertheless, is this the form of whiteness? No; but it is the efficient, which is ever but "vehiculum "formæ." This part of metaphysic I do not find laboured and performed; whereat I marvel not: because I hold it not possible to be invented by that course of invention which hath been used; in regard that men, which is the root of all error, have made too untimely a departure and too remote a recess from particulars.

But the use of this part of Metaphysique, which I report as deficient, is of the rest the most excellent in two respects: the one, because it is the duty and virtue of all knowledge to abridge the infinity of individual experience, as much as the conception of truth will permit, and to remedy the complaint of "vita brevis, ars longa;" which is performed by uniting the notions and conceptions of sciences: for knowledges are as pyramids, whereof history is the basis. So of Natural Philosophy, the basis is natural history; the stage next the basis is

physique; the stage next the vertical point is Metaphysique. As for the vertical point, "Opus "quod operatur Deus à principio usque ad fi-"nem," the summary law of nature, we know not whether man's inquiry can attain unto it. But these three be the true stages of knowledge, and are to them that are depraved no better than the giants' hills:

"Ter sunt conati imponere Pelio Ossam,
"Scilicet, atque Ossæ frondosum involvere Olympum."

But to those which refer all things to the glory of God, they are as the three acclamations, "Sancte, "sancte, sancte;" holy in the description or dilatation of his works; holy in the connection or concatenation of them; and holy in the union of them in a perpetual and uniform law. And therefore the speculation was excellent in Parmenides and Plato, although but a speculation in them, that all things by scale did ascend to unity. So then always that knowledge is worthiest, which is charged with least multiplicity; which appeareth to be Metaphysique; as that which considereth the simple forms or differences of things, which are few in number, and the degrees and co-ordinations whereof make all this variety.

The second respect, which valueth and commendeth this part of metaphysic, is that it doth enfranchise the power of man unto the greatest liberty and possibility of works and effects. For Physique carrieth men in narrow and restrained ways, subject

to many accidents of impediments, imitating the ordinary flexuous courses of nature; but "latæ "undique sunt sapientibus viæ:" to sapience, which was anciently defined to be "rerum divinarum et "humanarum scientia," there is ever choice of means: for physical causes give light to new invention "in "simili materia." But whosoever knoweth any form, knoweth the utmost possibility of superinducing that nature upon any variety of matter; and so is less restrained in operation, either to the basis of the matter, or the condition of the efficient: which kind of knowledge Solomon likewise, though in a more divine sort, elegantly describeth: "Non arcta-"buntur gressus tui, et currens non habebis offen-"diculum." The ways of sapience are not much liable either to particularity or chance.

The second part of Metaphysique is the inquiry of final causes, which I am moved to report not as omitted, but as misplaced; and yet if it were but a fault in order, I would not speak of it: for order is matter of illustration, but pertaineth not to the substance of sciences. But this misplacing hath caused a deficience, or at least a great improficience in the sciences themselves. For the handling of final causes, mixed with the rest in physical inquiries, hath intercepted the severe and diligent inquiry of all real and physical causes, and given men the occasion to stay upon these satisfactory and specious causes, to the great arrest and prejudice of further discovery. For this I find done not only by Plato,

who ever anchoreth upon that shore, but by Aristotle, Galen, and others which do usually likewise fall upon these flats of discoursing causes. For to say that the hairs of the eye-lids are for a quickset and fence about the sight; or that the firmness of the skins and hides of living creatures is to defend them from the extremities of heat or cold; or that the bones are for the columns or beams, whereupon the frames of the bodies of living creatures are built; or that the leaves of trees are for protecting of the fruit; or that the clouds are for the watering of the earth; or that the solidness of the earth is for the station and mansion of living creatures, and the like, is well inquired and collected in Metaphysique; but in Physique they are impertinent. Nay, they are indeed but remoras and hinderances to stay and slug the ship from further sailing; and have brought this to pass, that the search of the physical causes hath been neglected, and passed in silence. And therefore the natural philosophy of Democritus and some others, (who did not suppose a mind or reason in the frame of things, but attributed the form thereof, able to maintain itself, to infinite essays or proofs of nature, which they term fortune,) seemeth to me, as far as I can judge by the recital and fragments which remain unto us, in particularities of physical causes, more real and better inquired than that of Aristotle and Plato; whereof both intermingled final causes, the one as a part of theology, and the other as a part of logic, which were the

favourite studies respectively of both those persons. Not because those final causes are not true, and worthy to be inquired, being kept within their own province; but because their excursions into the limits of physical causes hath bred a vastness and solitude in that track. For otherwise, keeping their precincts and borders, men are extremely deceived if they think there is an enmity or repugnancy at all between them. For the cause rendered, that the hairs about the eye-lids are for the safeguard of the sight, doth not impugn the cause rendered, that pilosity is incident to orifices of moisture; "Muscosi "fontes, &c." Nor the cause rendered, that the firmness of hides is for the armour of the body against extremities of heat or cold, doth not impugn the cause rendered, that contraction of pores is incident to the outwardest parts, in regard of their adjacence to foreign or unlike bodies; and so of the rest: both causes being true and compatible, the one declaring an intention, the other a consequence only.

Neither doth this call in question, or derogate from divine providence, but highly confirm and exalt it. For as in civil actions he is the greater and deeper politician, that can make other men the instruments of his will and ends, and yet never acquaint them with his purpose, so as they shall do it, and yet not know what they do, than he that imparteth his meaning to those he employeth; so is the wisdom of God more admirable, when nature

intendeth one thing, and providence draweth forth another, than if he had communicated to particular creatures and motions the characters and impressions of his providence. And thus much for metaphysique; the latter part whereof I allow as extant, but wish it confined to its proper place.

Nevertheless there remaineth yet another part of natural philosophy, which is commonly made a principal part, and holdeth rank with physique special and metaphysique, which is Mathematique; but I think it more agreeable to the nature of things, and to the light of order, to place it as a branch of metaphysique: for the subject of it being quantity, (not quantity indefinite, which is but a relative, and belongeth to "philosophia prima," as hath been said, but quantity determined or proportionable), it appeareth to be one of the essential forms of things; as that that is causative in nature of a number of effects; insomuch as we see, in the schools both of Democritus and of Pythagoras, that the one did ascribe figure to the first seeds of things, and the other did suppose numbers to be the principles and originals of things: and it is true also, that of all other forms, as we understand forms, it is the most abstracted and separable from matter, and therefore most proper to metaphysique; which hath likewise been the cause why it hath been better laboured and inquired than any of the other forms, which are more immersed in matter.

For it being the nature of the mind of man, to

the extreme prejudice of knowledge, to delight in the spacious liberty of generalities, as in a champain region, and not in the inclosures of particularity; the mathematics of all other knowledge were the goodliest fields to satisfy that appetite.

But for the placing of this science, it is not much material: only we have endeavoured, in these our partitions, to observe a kind of perspective, that one part may cast light upon another.

The Mathematics are either pure or mixed. To the pure mathematics are those sciences belonging which handle quantity determinate, merely severed from any axioms of natural philosophy; and these are two, Geometry and Arithmetic; the one handling quantity continued, and the other dissevered.

Mixed hath for subject some axioms or parts of natural philosophy, and considereth quantity determined, as it is auxiliary and incident unto them.

For many parts of nature can neither be invented with sufficient subtilty, nor demonstrated with sufficient perspicuity, nor accommodated unto use with sufficient dexterity, without the aid and intervening of the mathematics: of which sort are perspective, music, astronomy, cosmography, architecture, enginery, and divers others.

In the mathematics I can report no deficience, except it be that men do not sufficiently understand the excellent use of the pure mathematics, in that they do remedy and cure many defects in the wit and faculties intellectual. For if the wit be too

dull, they sharpen it; if too wandering, they fix it; if too inherent in the sense, they abstract it. So that as tennis is a game of no use in itself, but of great use in respect it maketh a quick eye and a body ready to put itself into all postures; so in the mathematics, that use which is collateral and intervenient is no less worthy than that which is principal and intended. And as for the mixed mathematics, I may only make this prediction, that there cannot fail to be more kinds of them, as nature grows further disclosed. Thus much of natural science, or the part of nature speculative.

For Natural Prudence, or the part operative of natural philosophy, we will divide it into three parts, experimental, philosophical, and magical; which three parts active have a correspondence and analogy with the three parts speculative, natural history, physique, and metaphysique: for many operations have been invented, sometimes by a casual incidence and occurrence, sometimes by a purposed experiment: and of those which have been found by an intentional experiment, some have been found out by varying or extending the same experiment, some by transferring and compounding divers experiments the one into the other, which kind of invention an empiric may manage.

Again, by the knowledge of physical causes there cannot fail to follow many indications and designations of new particulars, if men in their speculation will keep one eye upon use and practice. But these are but

coastings along the shore, "premendo littus iniquum:" for, it seemeth to me there can hardly be discovered any radical or fundamental alterations and innovations in nature, either by the fortune and essays of experiments, or by the light and direction of physical causes. If therefore we have reported metaphysique deficient, it must follow that we do the like of natural magic, which hath relation thereunto. For as for the natural magic whereof now there is mention in books, containing certain credulous and superstitious conceits and observations of sympathies and antipathies, and hidden properties, and some frivolous experiments, strange rather by disguisement than in themselves, it is as far differing in truth of nature from such a knowledge as we require, as the story of king Arthur of Britain, or Hugh of Bourdeaux, differs from Cæsar's Commentaries in truth of story. For it is manifest that Cæsar did greater things "de "vero" than those imaginary heroes were feigned to do; but he did them not in that fabulous manner. Of this kind of learning the fable of Ixion was a figure, who designed to enjoy Juno, the goddess of power; and instead of her had copulation with a cloud, of which mixture were begotten centaurs and chimeras.

So whosoever shall entertain high and vaporous imaginations, instead of a laborious and sober inquiry of truth, shall beget hopes and beliefs of strange and impossible shapes. And therefore we may note in these sciences which hold so much of

imagination and belief, as this degenerate natural magic, alchemy, astrology, and the like, that in their propositions the description of the mean is ever more monstrous than the pretence or end. For it is a thing more probable, that he that knoweth well the natures of weight, of colour, of pliant and fragile in respect of the hammer, of volatile and fixed in respect of the fire and the rest, may superinduce upon some metal the nature and form of gold by such mechanique as belongeth to the production of the natures afore rehearsed, than that some grains of the medicine projected should in a few moments of time turn a sea of quicksilver or other material into gold: so it is more probable, that he that knoweth the nature of arefaction, the nature of assimilation of nourishment to the thing nourished, the manner of increase and clearing of spirits, the manner of the depredations which spirits make upon the humours and solid parts, shall by ambages of diets, bathings, anointings, medicines, motions, and the like, prolong life, or restore some degree of youth or vivacity, than that it can be done with the use of a few drops or scruples of a liquor or receipt. To conclude therefore, the true natural magic, which is that great liberty and latitude of operation which dependeth upon the knowledge of forms, I may report deficient, as the relative thereof is.

To which part, if we be serious, and incline not to vanities and plausible discourse, besides the deriving and deducing the operations themselves

from metaphysique, there are pertinent two points of much purpose, the one by way of preparation, the other by way of caution: the first is, that there be made a calendar, resembling an inventory of the estate of man, containing all the inventions, being the works or fruits of nature or art, which are now extant, and whereof man is already possessed; out of which doth naturally result a note, what things are yet held impossible, or not invented: which calendar will be the more artificial and serviceable, if to every reputed impossibility you add what thing is extant which cometh the nearest in degree to that impossibility; to the end that by these optatives and potentials man's inquiry may be the more awake in deducing direction of works from the speculation of causes: and secondly, that those experiments be not only esteemed which have an immediate and present use, but those principally which are of most universal consequence for invention of other experiments, and those which give more light to the invention of causes; for the invention of the mariner's needle, which giveth the direction, is of no less benefit for navigation than the invention of the sails, which give the motion.

Thus have I passed through natural philosophy, and the deficiences thereof; wherein if I have differed from the ancient and received doctrines, and thereby shall move contradiction,—for my part, as I affect not to dissent, so I purpose not to contend. If it be truth,

"Non canimus surdis, respondent omnia sylvæ:"

The voice of nature will consent, whether the voice of man do or not. And as Alexander Borgia was wont to say of the expedition of the French for Naples, that they came with chalk in their hands to mark up their lodgings, and not with weapons to fight; so I like better that entry of truth which cometh peaceably, with chalk to mark up those minds which are capable to lodge and harbour it, than that which cometh with pugnacity and contention.

But there remaineth a division of natural philosophy according to the report of the inquiry, and nothing concerning the matter or subject: and that is positive and considerative; when the inquiry reporteth either an assertion or a doubt. These doubts or "non liquets" are of two sorts, particular and total. For the first, we see a good example thereof in Aristotle's Problems, which deserved to have had a better continuance; but so nevertheless, as there is one point whereof warning is to be given and taken. The registering of doubts hath two excellent uses: the one, that it saveth philosophy from errours and falsehoods; when that which is not fully appearing is not collected into assertion, whereby errour might draw errour, but is reserved in doubt: the other, that the entry of doubts is as so many suckers or spunges to draw use of knowledge; insomuch as that which, if doubts had not preceded, a man should never have advised, but passed it over without note, is, by the suggestion and solicitation of doubts, made to be attended and applied. But both these com-

modities do scarcely countervail an inconvenience which will intrude itself, if it be not debarred; which is, that when a doubt is once received, men labour rather how to keep it a doubt still, than how to solve it; and accordingly bend their wits. Of this we see the familiar example in lawyers and scholars, both which, if they have once admitted a doubt, it goeth ever after authorised for a doubt. But that use of wit and knowledge is to be allowed, which laboureth to make doubtful things certain, and not those which labour to make certain things doubtful. Therefore these calendars of doubts I commend as excellent things; so that there be this caution used, that when they be thoroughly sifted and brought to resolution, they be from thenceforth omitted, discarded, and not continued to cherish and encourage men in doubting. To which calendar of doubts or problems, I advise be annexed another calendar, as much or more material, which is a calendar of popular errours: I mean chiefly in natural history, such as pass in speech and conceit, and are nevertheless apparently detected and convicted of untruth; that man's knowledge be not weakened nor imbased by such dross and vanity. As for the doubts or "non liquets" general, or in total, I understand those differences of opinions touching the principles of nature, and the fundamental points of the same, which have caused the diversity of sects, schools, and philosophies, as that of Empedocles, Pythagoras, Democritus, Parmenides, and the rest. For although Aristotle, as though he

had been of the race of the Ottomans, thought he could not reign except the first thing he did he killed all his brethren; yet to those that seek truth and not magistrality, it cannot but seem a matter of great profit, to see before them the several opinions touching the foundations of nature: not for any exact truth that can be expected in those theories; for as the same phænomena in astronomy are satisfied by the received astronomy of the diurnal motion, and the proper motions of the planets, with their eccentrics and epicyles, and likewise by the theory of Copernicus who supposed the earth to move, (and the calculations are indifferently agreeable to both,) so the ordinary face and view of experience is many times satisfied by several theories and philosophies; whereas to find the real truth requireth another manner of severity and attention. For as Aristotle saith, that children at the first will call every woman mother, but afterward they come to distinguish according to truth, so experience, if it be in childhood, will call every philosophy mother, but when it cometh to ripeness, it will discern the true mother. So, as in the mean time it is good to see the several glosses and opinions upon nature, whereof, it may be, every one in some one point hath seen clearer than his fellows, therefore, I wish some collection to be made, painfully and understandingly, "de antiquis "philosophiis," out of all the possible light which remaineth to us of them: which kind of work I find deficient. But here I must give warning, that it be done distinctly and severally; the philosophies of

every one throughout by themselves, and not by titles packed and faggotted up together, as hath been done by Plutarch. For it is the harmony of a philosophy in itself which giveth it light and credence; whereas if it be singled and broken, it will seem more foreign and dissonant. For as when I read in Tacitus the actions of Nero, or Claudius, with circumstances of times, inducements, and occasions, I find them not so strange; but when I read them in Suetonius Tranquillus, gathered into titles and bundles, and not in order of time, they seem more monstrous and incredible: so is it of any philosophy reported entire, and dismembered by articles. Neither do I exclude opinions of latter times to be likewise represented in this calendar of sects of philosophy, as that of Theophrastus Paracelsus, eloquently reduced into an harmony by the pen of Severinus the Dane; and that of Tilesius, and his scholar Donius, being as a pastoral philosophy, full of sense, but of no great depth; and that of Fracastorius, who, though he pretended not to make any new philosophy, yet did use the absoluteness of his own sense upon the old; and that of Gilbertus our countryman, who revived, with some alterations and demonstrations, the opinions of Xenophanes; and any other worthy to be admitted.

Thus have we now dealt with two of the three beams of man's knowledge; that is "Radius directus," which is referred to nature, "Radius refractus," which is referred to God; and cannot report truly because of the inequality of the medium: there

resteth "Radius reflexus," whereby man beholdeth and contemplateth himself.

We come therefore now to that knowledge whereunto the ancient oracle directeth us, which is the knowledge of ourselves; which deserveth the more accurate handling, by how much it toucheth us more nearly. This knowledge, as it is the end and term of natural philosophy in the intention of man, so notwithstanding, it is but a portion of natural philosophy in the continent of nature: and generally let this be a rule, that all partitions of knowledges be accepted rather for lines and veins, than for sections and separations; and that the continuance and entireness of knowledge be preserved. For the contrary hereof hath made particular sciences to become barren, shallow, and erroneous, while they have not been nourished and maintained from the common fountain. So we see Cicero the orator complained of Socrates and his school, that he was the first that separated philosophy and rhetoric; whereupon rhetoric became an empty and verbal art. So we may see that the opinion of Copernicus touching the rotation of the earth, which astronomy itself cannot correct, because it is not repugnant to any of the phænomena, yet natural philosophy may correct. So we see also that the science of medicine, if it be destituted and forsaken by natural philosophy, it is not much better than an empirical practice. With this reservation therefore we proceed to Human Philosophy, or Humanity, which hath two parts: the one considereth

man segregate, or destributively; the other congregate, or in society. So is human philosophy either simple and particular, or conjugate and civil. Humanity particular consisteth of the same parts whereof man consisteth; that is, of knowledges which respect the body, and of knowledges that respect the mind; but before we distribute so far, it is good to constitute. For I do take the consideration in general, and at large, of human nature to be fit to be emancipate and made a knowledge by itself: not so much in regard of those delightful and elegant discourses which have been made of the dignity of man, of his miseries, of his state and life, and the like adjuncts of his common and undivided nature; but chiefly in regard of the knowledge concerning the sympathies and concordances between the mind and body, which being mixed cannot be properly assigned to the sciences of either.

This knowledge hath two branches: for as all leagues and amities consist of mutual intelligence and mutual offices, so this league of mind and body hath these two parts; how the one discloseth the other, and how the one worketh upon the other; Discovery, and Impression. The former of these hath begotten two arts, both of prediction or prenotion; whereof the one is honoured with the inquiry of Aristotle, and the other of Hippocrates. And although they have of later time been used to be coupled with superstitious and fantastical arts, yet being purged and restored to their true state, they have both of them a solid ground in nature,

and a profitable use in life. The first is physiognomy, which discovereth the disposition of the mind by the lineaments of the body: the second is the exposition of natural dreams, which discovereth the state of the body by the imaginations of the mind. In the former of these I note a deficience. For Aristotle hath very ingeniously and diligently handled the features of the body, but not the gestures of the body, which are no less comprehensible by art, and of greater use and advantage. For the lineaments of the body do disclose the disposition and inclination of the mind in general; but the motions of the countenance and parts do not only so, but do further disclose the present humour and state of the mind and will. For as your majesty saith most aptly and elegantly, "As the tongue "speaketh to the ear, so the gesture speaketh to "the eye." And therefore a number of subtle persons, whose eyes do dwell upon the faces and fashions of men, do well know the advantage of this observation, as being most part of their ability; neither can it be denied, but that it is a great discovery of dissimulations, and a great direction in business.

The latter branch, touching impression, hath not been collected into art, but hath been handled dispersedly; and it hath the same relation or antistrophe that the former hath. For the consideration is double: "Either how, and how far the humours "and affects of the body do alter or work upon the "mind; or again, how and how far the passions or

"apprehensions of the mind do alter or work upon "the body." The former of these hath been inquired and considered as a part and appendix of medicine, but much more as a part of religion or superstition. For the physician prescribeth cures of the mind in phrensies and melancholy passions; and pretendeth also to exhibit medicines to exhilarate the mind, to confirm the courage, to clarify the wits, to corroborate the memory, and the like: but the scruples and superstitions of diet and other regimen of the body in the sect of the Pythagoreans, in the heresy of the Manicheans, and in the law of Mahomet, do exceed. So likewise the ordinances in the ceremonial law, interdicting the eating of the blood and fat, distinguishing between beasts clean and unclean for meat, are many and strict. Nay, the faith itself being clear and serene from all clouds of ceremony, yet retaineth the use of fastings, abstinences, and other macerations and humiliations of the body, as things real, and not figurative. The root and life of all which prescripts is, besides the ceremony, the consideration of that dependency which the affections of the mind are submitted unto upon the state and disposition of the body. And if any man of weak judgment do conceive that this suffering of the mind from the body doth either question the immortality, or derogate from the sovereignty of the soul, he may be taught in easy instances, that the infant in the mother's womb is compatible with the mother and yet separable; and the most absolute monarch, is sometimes led by his servants and yet without

subjection. As for the reciprocal knowledge, which is the operation of the conceits and passions of the mind upon the body, we see all wise physicians, in the prescriptions of their regimens to their patients, do ever consider "accidentia animi" as of great force to further or hinder remedies or recoveries: and more especially it is an inquiry of great depth and worth concerning imagination, how and how far it altereth the body proper of the imaginant. For although it hath a manifest power to hurt, it followeth not it hath the same degree of power to help; no more than a man can conclude, that because there be pestilent airs, able suddenly to kill a man in health, therefore there should be sovereign airs, able suddenly to cure a man in sickness. But the inquisition of this part is of great use, though it needeth, as Socrates said, "a Delian diver," being difficult and profound. But unto all this knowledge "de communi vinculo," of the concordances between the mind and the body, that part of inquiry is most necessary, which considereth of the seats and domiciles which the several faculties of the mind do take and occupate in the organs of the body; which knowledge hath been attempted, and is controverted, and deserveth to be much better inquired. For the opinion of Plato, who placed the understanding in the brain, animosity (which he did unfitly call anger, having a greater mixture with pride) in the heart, and concupiscence or sensuality in the liver, deserveth not to be despised; but much less to be allowed. So then we have constituted, as in our own

wish and advice, the inquiry touching human nature entire, as a just portion of knowledge to be handled apart.

The knowledge that concerneth man's body is divided as the good of man's body is divided, unto which it referreth. The good of man's body is of four kinds, health, beauty, strength, and pleasure: so the knowledges are medicine, or art of cure; art of decoration, which is called cosmetique; art of activity, which is called athletique; and art voluptuary, which Tacitus truly calleth "eruditus luxus." This subject of man's body is of all other things in nature most susceptible of remedy; but then that remedy is most susceptible of error. For the same subtilty of the subject doth cause large possibility and easy failing; and therefore the inquiry ought to be the more exact.

To speak therefore of medicine, and to resume that we have said, ascending a little higher: the ancient opinion that man was microcosmus, an abstract or model of the world, hath been fantastically strained by Paracelsus and the alchemists, as if there were to be found in man's body certain correspondences and parallels, which should have respect to all varieties of things, as stars, planets, minerals, which are extant in the great world. But thus much is evidently true, that of all substances which nature hath produced, man's body is the most extremely compounded: for we see herbs and plants are nourished by earth and water; beasts for the most part by herbs and fruits; man by the flesh of

beasts, birds, fishes, herbs, grains, fruits, water, and the manifold alterations, dressings, and preparations of these several bodies, before they come to be his food and aliment. Add hereunto, that beasts have a more simple order of life, and less change of affections to work upon their bodies: whereas man in his mansion, sleep, exercise, passions, hath infinite variations: and it cannot be denied but that the body of man of all other things is of the most compounded mass. The soul on the other side is the simplest of substances, as is well expressed:

"Purumque reliquit
"Æthereum sensum atque auraï simplicis ignem."

So that it is no marvel though the soul so placed enjoy no rest, if that principle be true, that "Motus "rerum est rapidus extra locum, placidus in loco." But to the purpose: this variable composition of man's body hath made it as an instrument easy to distemper; and therefore the poets did well to conjoin music and medicine in Apollo: because the office of medicine is but to tune this curious harp of man's body and to reduce it to harmony. So then the subject being so variable, hath made the art by consequence more conjectural; an art being conjectural hath made so much the more place to be left for imposture. For almost all other arts and sciences are judged by acts or masterpieces, as I may term them, and not by the successes and events. The lawyer is judged by the virtue of his pleading, and not by the issue of the cause. The master of the ship is judged by the directing

his course aright, and not by the fortune of the voyage. But the physician, and perhaps the politician, hath no particular acts demonstrative of his ability, but is judged most by the event; which is ever but as it is taken: for who can tell, if a patient die or recover, or if a state be preserved or ruined, whether it be art or accident? And therefore many times the impostor is prized, and the man of virtue taxed. Nay, we see the weakness and credulity of men is such, as they will often prefer a mountebank or witch before a learned physician. And therefore the poets were clear-sighted in discerning this extreme folly, when they made Æsculapius and Circe brother and sister, both children of the sun, as in the verses, Æn. vii. 772.

> "Ipse repertorem medicinæ talis et artis
> "Fulmine Phœbigenam Stygias detrusit ad undas:"

And again, Æn. vii. 11.

> "Dives inaccessos ubi Solis filia lucos, &c."

For in all times, in the opinion of the multitude, witches and old women and impostors have had a competition with physicians. And what followeth? Even this, that physicians say to themselves, as Solomon expresseth it upon an higher occasion; "If "it befal to me as befalleth to the fools, why should "I labour to be more wise?" And therefore I cannot much blame physicians, that they use commonly to intend some other art or practice, which they fancy more than their profession. For you shall have of them antiquaries, poets, humanists, statesmen,

merchants, divines, and in every of these better seen than in their profession; and no doubt upon this ground, that they find that mediocrity and excellency in their art maketh no difference in profit or reputation towards their fortune; for the weakness of patients, and sweetness of life, and nature of hope, maketh men depend upon physicians with all their defects. But, nevertheless, these things which we have spoken of, are courses begotten between a little occasion, and a great deal of sloth and default; for if we will excite and awake our observation, we shall see in familiar instances what a predominant faculty the subtilty of spirit hath over the variety of matter or form. Nothing more variable than faces and countenances; yet men can bear in memory the infinite distinctions of them; nay, a painter with a few shells of colours, and the benefit of his eye, and habit of his imagination, can imitate them all that ever have been, are, or may be, if they were brought before him. Nothing more variable than voices; yet men can likewise discern them personally: nay, you shall have a buffoon, or pantomimus, who will express as many as he pleaseth. Nothing more variable than the differing sounds of words; yet men have found the way to reduce them to a few simple letters. So that it is not the insufficiency or incapacity of man's mind, but it is the remote standing or placing thereof, that breedeth these mazes and incomprehensions: for as the sense afar off is full of mistaking, but is exact at hand, so is it of the understanding; the remedy whereof is, not to quicken

or strengthen the organ, but to go nearer to the object; and therefore there is no doubt but if the physicians will learn and use the true approaches and avenues of nature, they may assume as much as the poet saith:

> "Et quoniam variant morbi, variabimus artes;
> "Mille mali species, mille salutis erunt."

Which that they should do, the nobleness of their art doth deserve; well shadowed by the poets, in that they made Æsculapius to be the son of the Sun, the one being the fountain of life, the other as the second stream: but infinitely more honoured by the example of our Saviour, who made the body of man the object of his miracles, as the soul was the object of his doctrine. For we read not that ever he vouchsafed to do any miracle about honour or money, except that one for giving tribute to Cæsar; but only about the preserving, sustaining, and healing the body of man.

Medicine is a science which hath been, as we have said, more professed than laboured, and yet more laboured than advanced; the labour having been, in my judgment, rather in circle than in progression. For I find much iteration, but small addition. It considereth causes of diseases, with the occasions or impulsions; the diseases themselves, with the accidents; and the cures, with the preservations. The deficiencies which I think good to note, being a few of many, and those such as are of a more open and manifest nature, I will enumerate, and not place.

The first is the discontinuance of the ancient and serious diligence of Hippocrates, which used to set down a narrative of the special cases of his patients, and how they proceeded, and how they were judged by recovery or death. Therefore having an example proper in the father of the art, I shall not need to allege an example foreign, of the wisdom of the lawyers, who are careful to report new cases aud decisions, for the direction of future judgments. This continuance of Medicinal History I find deficient; which I understand neither to be so infinite as to extend to every common case, nor so reserved as to admit none but wonders: for many things are new in the manner, which are not new in the kind; and if men will intend to observe, they shall find much worthy to observe.

In the inquiry which is made by anatomy I find much deficience: for they inquire of the parts, and their substances, figures, and collocations; but they inquire not of the diversities of the parts, the secrecies of the passages, and the seats or nestlings of the humours, nor much of the footsteps and impressions of diseases: the reason of which omission I suppose to be, because the first inquiry may be satisfied in the view of one or a few anatomies; but the latter, being comparative and casual, must arise from the view of many. And as to the diversity of parts, there is no doubt but the facture or framing of the inward parts is as full of difference as the outward, and in that is the cause continent of many diseases; which not being observed, they quarrel

many times with the humours, which are not in fault; the fault being in the very frame and mechanic of the part, which cannot be removed by medicine alterative, but must be accommodate and palliate by diets and medicines familiar. As for the passages and pores, it is true which was anciently noted, that the more subtile of them appear not in anatomies, because they are shut and latent in dead bodies, though they be open and manifest in live: which being supposed, though the inhumanity of "anatomia vivorum" was by Celsus justly reproved; yet in regard of the great use of this observation, the inquiry needed not by him so slightly to have been relinquished altogether, or referred to the casual practices of surgery; but might have been well diverted upon the dissection of beasts alive, which notwithstanding the dissimilitude of their parts, may sufficiently satisfy this inquiry. And for the humours, they are commonly passed over in anatomies as purgaments; whereas it is most necessary to observe, what cavities, nests, and receptacles the humours do find in the parts, with the differing kind of the humour so lodged and received. And as for the footsteps of diseases, and their devastations of the inward parts, imposthumations, exulcerations, discontinuations, putrefactions, consumptions, contractions, extensions, convulsions, dislocations, obstructions, repletions, together with all preternatural substances, as stones, carnosities, excrescences, worms, and the like; they ought to have been exactly observed by multitude of anatomies, and the contri-

bution of men's several experiences, and carefully set down, both historically, according to the appearances, and artificially, with a reference to the diseases and symptoms which result from them, in case where the anatomy is of a defunct patient; whereas now, upon opening of bodies, they are passed over slightly and in silence.

In the inquiry of diseases, they do abandon the cures of many, some as in their nature incurable, and others as past the period of cure; so that Sylla and the triumvirs never proscribed so many men to die, as they do by their ignorant edicts; whereof numbers do escape with less difficulty than they did in the Roman proscriptions. Therefore I will not doubt to note as a deficience, that they inquire not the perfect cures of many diseases, or extremities of diseases; but, pronouncing them incurable do enact a law of neglect, and exempt ignorance from discredit.

Nay further, I esteem it the office of a physician not only to restore health, but to mitigate pain and dolours; and not only when such mitigation may conduce to recovery, but when it may serve to make a fair and easy passage: for it is no small felicity which Augustus Cæsar was wont to wish to himself, that same "euthanasia;" and which was specially noted in the death of Antoninus Pius, whose death was after the fashion and semblance of a kindly and pleasant sleep. So it is written of Epicurus, that after his disease was judged desperate, he drowned his stomach and senses with a large draught and

ingurgitation of wine; whereupon the epigram was made, "Hinc Stygias ebrius hausit aquas;" he was not sober enough to taste any bitterness of the Stygian water. But the physicians, contrariwise, do make a kind of scruple and religion to stay with the patient after the disease is deplored; whereas, in my judgment, they ought both to inquire the skill, and to give the attendances, for the facilitating and assuaging of the pains and agonies of death.

In the consideration of the cures of diseases, I find a deficience in the receipts of propriety, respecting the particular cures of diseases: for the physicians have frustrated the fruit of tradition and experience by their magistralities, in adding, and taking out, and changing "quid pro quo," in their receipts, at their pleasures; commanding so over the medicine, as the medicine cannot command over the diseases: for except it be treacle and mithridatum, and of late diascordium, and a few more, they tie themselves to no receipts severely and religiously: for as to the confections of sale which are in the shops, they are for readiness, and not for propriety; for they are upon general intentions of purging, opening, comforting, altering, and not much appropriate to particular diseases: and this is the cause why empirics and old women are more happy many times in their cures than learned physicians, because they are more religious in holding their medicines. Therefore here is the deficience which I find, that physicians have not, partly out of their own practice, partly out of the constant pro-

bations reported in books, and partly out of the traditions of empirics, set down and delivered over certain experimental medicines for the cure of particular diseases, besides their own conjectural and magistral descriptions. For as they were the men of the best composition in the state of Rome, which either being consuls inclined to the people, or being tribunes inclined to the senate; so in the matter we now handle, they be the best physicians, which being learned incline to the traditions of experience, or being empirics incline to the methods of learning.

In preparation of medicines, I do find strange, especially considering how mineral medicines have been extolled, and that they are safer for the outward than inward parts, that no man hath sought to make an imitation by art of natural baths and medicinable fountains; which nevertheless are confessed to receive their virtues from minerals: and not so only, but discerned and distinguished from what particular mineral they receive tincture, as sulphur, vitriol, steel, or the like; which nature, if it may be reduced to compositions of art, both the variety of them will be increased, and the temper of them will be more commanded.

But lest I grow to be more particular than is agreeable either to my intention or to proportion, I will conclude this part with the note of one deficience more, which seemeth to me of greatest consequence; which is, that the prescripts in use are too compendious to attain their end: for, to my understanding,

it is a vain and flattering opinion to think any medicine can be so sovereign or so happy, as that the receipt or use of it can work any great effect upon the body of man. It were a strange speech, which, spoken, or spoken oft, should reclaim a man from a vice to which he were by nature subject: it is order, pursuit, sequence, and interchange of application, which is mighty in nature; which, although it require more exact knowledge in prescribing, and more precise obedience in observing, yet is recompensed with the magnitude of effects. And although a man would think, by the daily visitations of the physicians, that there were a pursuance in the cure; yet let a man look into their prescripts and ministrations, and he shall find them but inconstancies and every day's devices, without any settled providence or project. Not that every scrupulous or superstitious prescript is effectual, no more than every straight way is the way to heaven; but the truth of the direction must precede severity of observance.

For Cosmetique, it hath parts civil, and parts effeminate: for cleanness of body was ever esteemed to proceed from a due reverence to God, to society, and to ourselves. As for artificial decoration, it is well worthy of the deficiencies which it hath; being neither fine enough to deceive, nor handsome to use, nor wholesome to please.

For Athletique, I take the subject of it largely, that is to say, for any point of Ability whereunto the body of man may be brought, whether it be of activity, or of patience; whereof activity hath two

parts, strength and swiftness; and patience likewise hath two parts, hardness against wants and extremities, and indurance of pain or torment: whereof we see the practices in tumblers, in savages, and in those that suffer punishment: nay, if there be any other faculty which falls not within any of the former divisions, as in those that dive, that obtain a strange power of containing respiration, and the like, I refer it to this part. Of these things the practices are known, but the philosophy that concerneth them is not much inquired; the rather, I think, because they are supposed to be obtained, either by an aptness of nature, which cannot be taught, or only by continual custom, which is soon prescribed; which though it be not true, yet I forbear to note any deficiences: for the Olympian games are down long since, and the mediocrity of these things is for use; as for the excellency of them, it serveth for the most part but for mercenary ostentation.

For arts of pleasure sensual, the chief deficence in them is of laws to repress them. For as it hath been well observed, that the arts which flourish in times while virtue is in growth, are military; and while virtue is in state, are liberal; and while virtue is in declination, are voluptuary; so I doubt that this age of the world is somewhat upon the descent of the wheel. With arts voluptuary I couple practices joculary; for the deceiving of the senses is one of the pleasures of the senses. As for games of recreation, I hold them to belong to civil life and educa-

tion. And thus much of that particular human philosophy which concerns the body, which is but the tabernacle of the mind.

For Human Knowledge which concerns the Mind, it hath two parts; the one that inquireth of the substance or nature of the soul or mind, the other that inquireth of the faculties or functions thereof. Unto the first of these, the considerations of the original of the soul, whether it be native or adventive, and how far it is exempted from laws of matter, and of the immortality thereof, and many other points, do appertain: which have been not more laboriously inquired than variously reported; so as the travail therein taken seemeth to have been rather in a maze than in a way. But although I am of opinion that this knowledge may be more really and soundly inquired, even in nature, than it hath been; yet I hold that in the end it must be bounded by religion, or else it will be subject to deceit and delusion: for as the substance of the soul in the creation was not extracted out of the mass of heaven and earth by the benediction of a "producat," but was immediately inspired from God: so it is not possible that it should be otherwise than by accident, subject to the laws of heaven and earth, which are the subject of philosophy; and therefore the true knowledge of the nature and state of the soul, must come by the same inspiration that gave the substance. Unto this part of knowledge touching the soul there be two appendices; which, as they have been handled, have rather vapoured

forth fables than kindled truth, divination and fascination.

Divination hath been anciently and fitly divided into artificial and natural; whereof artificial is, when the mind maketh a prediction by argument, concluding upon signs and tokens; natural is, when the mind hath a presention by an internal power, without the inducement of a sign. Artificial is of two sorts; either when the argument is coupled with a derivation of causes, which is rational; or when it is only grounded upon a coincidence of the effect, which is experimental: whereof the latter for the most part is superstitious; such as were the heathen observations upon the inspection of sacrifices, the flights of birds, the swarming of bees; and such as was the Chaldean astrology, and the like. For artificial divination, the several kinds thereof are distributed amongst particular knowledges. The astronomer hath his predictions, as of conjunctions, aspects, eclipses, and the like. The physician hath his predictions of death, of recovery, of the accidents and issues of diseases. The politician hath his predictions; "O urbem venalem, et cito perituram, si "emptorem invenerit!" which stayed not long to be performed, in Sylla first, and after in Cæsar. So as these predictions are now impertinent, and to be referred over. But the divination which springeth from the internal nature of the soul, is that which we now speak of; which hath been made to be of two sorts, primitive and by influxion. Primitive is grounded upon the supposition, that the mind, when

it is withdrawn and collected into itself, and not diffused into the organs of the body, hath some extent and latitude of prenotion; which therefore appeareth most in sleep, in extasies, and near death, and more rarely in waking apprehensions; and is induced and furthered by those abstinences and observances which make the mind most to consist in itself: by influxion, is grounded upon the conceit that the mind, as a mirror or glass, should take illumination, from the foreknowledge of God and spirits; unto which the same regimen doth likewise conduce. For the retiring of the mind within itself, is the state which is most susceptible of divine influxions; save that it is accompanied in this case with a fervency and elevation, which the ancients noted by fury, and not with a repose and quiet, as it is in the other.

Fascination is the power and act of imagination, intensive upon other bodies than the body of the imaginant: for of that we spake in the proper place: wherein the school of Paracelsus, and the disciples of pretended natural magic have been so intemperate, as they have exalted the power of the imagination to be much one with the power of miracle-working faith; others, that draw nearer to probability, calling to their view the secret passages of things, and specially of the contagion that passeth from body to body, do conceive it should likewise be agreeable to nature, that there should be some transmissions and operations from spirit to spirit without the mediation of the senses; whence the

conceits have grown, now almost made civil, of the mastering spirit, and the force of confidence, and the like. Incident unto this is the inquiry how to raise and fortify the imagination: for if the imagination fortified have power, then it is material to know how to fortify and exalt it. And herein comes in crookedly and dangerously a palliation of a great part of ceremonial magic. For it may be pretended that ceremonies, characters, and charms, do work, not by any tacit or sacramental contract with evil spirits, but serve only to strengthen the imagination of him that useth it; as images are said by the Roman church to fix the cogitations, and raise the devotions of them that pray before them. But for mine own judgment, if it be admitted that imagination hath power, and that ceremonies fortify imagination, and that they be used sincerely and intentionally for that purpose; yet I should hold them unlawful, as opposing to that first edict which God gave unto man, "In sudore vultus comedes "panem tuum." For they propound those noble effects, which God hath set forth unto man to be bought at the price of labour, to be attained by a few easy and slothful observances. Deficiences in these knowledges I will report none, other than the general deficience, that it is not known how much of them is verity, and how much vanity.

The knowledge which respecteth the faculties of the mind of man is of two kinds; the one respecting his understanding and reason, and the other his will, appetite, and affection; whereof the former pro-

duceth direction or decree, the latter action or execution. It is true that the imagination is an agent or "nuncius," in both provinces, both the judicial and the ministerial. For sense sendeth over to imagination before reason have judged: and reason sendeth over to imagination before the decree can be acted; for imagination ever precedeth voluntary motion. Saving that this Janus of imagination hath differing faces; for the face towards reason hath the print of truth, but the face towards action hath the print of good; which nevertheless are faces,

"Quales decet esse sororum."

Neither is the imagination simply and only a messenger; but is invested with, or at leastwise usurpeth no small authority in itself, besides the duty of the message. For it was well said by Aristotle, "That "the mind hath over the body that commandment, "which the lord hath over a bondman; but that "reason hath over the imagination that command-"ment which a magistrate hath over a free citizen;" who may come also to rule in his turn. For we see that, in matters of faith and religion, we raise our imagination above our reason; which is the cause why religion sought ever access to the mind by similitudes, types, parables, visions, dreams. And again, in all persuasions that are wrought by eloquence, and other impressions of like nature, which do paint and disguise the true appearance of things, the chief recommendation unto reason is from the imagination. Nevertheless, because I find not any science that doth properly or fitly pertain to the imagi-

nation, I see no cause to alter the former division. For as for poesy, it is rather a pleasure or play of imagination, than a work or duty thereof. And if it be a work, we speak not now of such parts of learning as the imagination produceth, but of such sciences as handle and consider of the imagination; no more than we shall speak now of such knowledges as reason produceth, for that extendeth to all philosophy, but of such knowledges as do handle and inquire of the faculty of reason: so as poesy had its true place. As for the power of the imagination in nature, and the manner of fortifying the same, we have mentioned it in the doctrine "De "anima," whereunto most fitly it belongeth. And lastly, for imaginative or insinuative reason, which is the subject of rhetoric, we think it best to refer it to the arts of reason. So therefore we content ourselves with the former division, that Human Philosophy, which respecteth the faculties of the mind of man, hath two parts, Rational and Moral.

The part of Human Philosophy which is rational, is of all knowledges, to the most wits, the least delightful, and seemeth but a net of subtilty and spinosity. For as it was truly said, that knowledge is "pabulum animi;" so in the nature of men's appetite to this food, most men are of the taste and stomach of the Israelites in the desert, that would fain have returned "ad ollas carnium," and were weary of manna; which, though it were celestial, yet seemed less nutritive and comfortable. So generally men taste well knowledges that are

drenched in flesh and blood, civil history, morality, policy, about the which men's affections, praises, fortunes, do turn and are conversant; but this same "lumen siccum" doth parch and offend most men's watery and soft natures. But, to speak truly of things as they are in worth, rational knowledges are the keys of all other arts; for as Aristotle saith aptly and elegantly, "That the hand is the "instrument of instruments, and the mind is the "form of forms:" so these be truly said to be the art of arts: neither do they only direct, but likewise confirm and strengthen; even as the habit of shooting doth not only enable to shoot a nearer shoot, but also to draw a stronger bow.

The arts intellectual are four in number; divided according to the ends whereunto they are referred: for man's labour is to invent that which is sought or propounded; or to judge that which is invented; or to retain that which is judged; or to deliver over that which is retained. So as the arts must be four; art of inquiry or invention: art of examination or judgment; art of custody or memory; and art of elocution or tradition.

Invention is of two kinds, much differing; the one, of arts and sciences; and the other, of speech and arguments. The former of these I do report deficient; which seemeth to me to be such a deficience as if, in the making of an inventory touching the estate of a defunct, it should be set down, that there is no ready money. For as money will fetch all other commodities, so this knowledge is that

which should purchase all the rest. And like as the West-Indies had never been discovered, if the use of the mariner's needle had not been first discovered, though the one be vast regions, and the other a small motion; so it cannot be found strange if sciences be no farther discovered, if the art itself of invention and discovery hath been passed over.

That this part of knowledge is wanting, to my judgment standeth plainly confessed: for first, logic doth not pretend to invent sciences, or the axioms of sciences, but passeth it over with a "cuique in sua "arte credendum." And Celsus acknowledgeth it gravely, speaking of the empirical and dogmatical sects of physicians, "That medicines and cures were "first found out, and then after the reasons and "causes were discoursed; and not the causes first "found out, and by light from them the medicines "and cures discovered." And Plato, in his Theætetus, noteth well, "That particulars are infinite, and the "higher generalities give no sufficient direction; "and that the pith of all sciences, which maketh the "artsman differ from the inexpert, is in the middle "propositions, which in every particular knowledge "are taken from tradition and experience." And therefore we see, that they which discourse of the inventions and originals of things, refer them rather to chance than to art, and rather to beasts, birds, fishes, serpents, than to men.

"Dictamnum genetrix Cretæa carpit ab Ida,
"Puberibus caulem foliis et flore comantem

"Purpureo: non illa feris incognita capris
"Gramina, cum tergo volucres hæsere sagittæ."

So that it was no marvel, the manner of antiquity being to consecrate inventors, that the Ægyptians had so few human idols in their temples, but almost all brute.

"Omnigenumque Deum monstra, et latrator Anubis,
"Contra Neptunum, et Venerem, contraque Minervam, &c."

And if you like better the tradition of the Grecians, and ascribe the first inventions to men; yet you will rather believe that Prometheus first struck the flints, and marvelled at the spark, than that when he first struck the flints he expected the spark: and therefore we see the West-Indian Prometheus had no intelligence with the European, because of the rareness with them of flint, that gave the first occasion. So as it should seem, that hitherto men are rather beholden to a wild goat for surgery, or to a nightingale for music, or to the ibis for some part of physic, or to the pot lid that flew open for artillery, or generally to chance, or any thing else, than to logic, for the invention of arts and sciences. Neither is the form of invention which Virgil describeth much other:

"Ut varias usus meditando extunderet artes
"Paulatim."

For if you observe the words well, it is no other method than that which brute beasts are capable of, and o put in use; which is a perpetual intending or practising some one thing, urged and imposed by an absolute necessity of conservation of being: for

so Cicero saith very truly, "Usus uni rei deditus et "naturam et artem sæpe vincit." And therefore if it be said of men,

"Labor omnia vincit
"Improbus, et duris urgens in rebus egestas!"

it is likewise said of beasts, "Quis psittaco docuit "suum χαῖρε?" Who taught the raven in a drought to throw pebbles into an hollow tree, where she espied water, that the water might rise so as she might come to it? Who taught the bee to sail through such a vast sea of air, and to find the way from a field in flower, a great way off, to her hive? Who taught the ant to bite every grain of corn that she burieth in her hill, lest it should take root and grow? Add then the word "extundere," which importeth the extreme difficulty, and the word "pau-"latim," which importeth the extreme slowness, and we are where we were, even amongst the Ægyptians' gods; there being little left to the faculty of reason, and nothing to the duty of art, for matter of invention.

Secondly, the induction which the logicians speak of, and which seemeth familiar with Plato, (whereby the principles of sciences may be pretended to be invented, and so the middle propositions by derivation from the principles;) their form of induction, I say, is utterly vicious and incompetent: wherein their error is the fouler, because it is the duty of art to perfect and exalt nature; but they contrariwise have wronged, abused, and traduced nature. For he that shall attentively observe how

the mind doth gather this excellent dew of knowledge, like unto that which the poet speaketh of, "Aërei mellis cœlestia dona," distilling and contriving it out of particulars natural and artificial, as the flowers of the field and garden, shall find that the mind of herself by nature doth manage and act an induction much better than they describe it. For to conclude upon an enumeration of particulars, without instance contradictory, is no conclusion, but a conjecture; for who can assure, in many subjects upon those particulars which appear of a side, that there are not other on the contrary side which appear not? As if Samuel should have rested upon those sons of Jesse which were brought before him, and failed of David, which was in the field. And this form, to say truth, is so gross, as it had not been possible for wits so subtile as have managed these things to have offered it to the world, but that they hasted to their theories and dogmaticals, and were imperious and scornful toward particulars; which their manner was to use but as "lictores and viatores," for sarjeants and whifflers, "ad summovendam "turbam," to make way and make room for their opinions, rather than in their true use and service. Certainly it is a thing may touch a man with a religious wonder, to see how the footsteps of seducement are the very same in divine and human truth: for as in divine truth man cannot endure to become as a child; so in human, they reputed the attending the inductions whereof we speak, as if it were a second infancy or childhood.

Thirdly, allow some principles or axioms were rightly induced, yet nevertheless certain it is that middle propositions cannot be deduced from them in subject of nature by syllogism, that is, by touch and reduction of them to principles in a middle term. It is true that in sciences popular, as moralities, laws, and the like, yea and divinity (because it pleaseth God to apply himself to the capacity of the simplest), that form may have use; and in natural philosophy likewise, by way of argument or satisfactory reason, "Quæ assensum parit, operis "effœta est:" but the subtlety of nature and operations will not be enchained in those bonds: for arguments consist of propositions, and propositions of words; and words are but the current tokens or marks of popular notions of things; which notions, if they be grossly and variably collected out of particulars, it is not the laborious examination either of consequences of arguments, or of the truth of propositions, that can ever correct that error, being, as the physicians speak, in the first digestion: and therefore it was not without cause, that so many excellent philosophers became sceptics and academics, and denied any certainty of knowledge or comprehension; and held opinion, that the knowledge of man extended only to appearances and probabilities. It is true that in Socrates it was supposed to be but a form of irony, "Scientiam "dissimulando simulavit:" for he used to disable his knowledge, to the end to enhance his knowledge; like the humour of Tiberius in his beginnings, that

would reign, but would not acknowledge so much: and in the later Academy, which Cicero embraced, this opinion also of "acatalepsia," I doubt, was not held sincerely: for that all those which excelled in "copia" of speech seem to have chosen that sect, as that which was fittest to give glory to their eloquence and variable discourses; being rather like progresses of pleasure, than journeys to an end. But assuredly many scattered in both Academies did hold it in subtilty and integrity: but here was their chief error; they charged the deceit upon the senses; which in my judgment, notwithstanding all their cavillations, are very sufficient to certify and report truth, though not always immediately, yet by comparison, by help of instrument, and by producing and urging such things as are too subtile for the sense to some effect comprehensible by the sense, and other like assistance. But they ought to have charged the deceit upon the weakness of the intellectual powers, and upon the manner of collecting and concluding upon the reports of the senses. This I speak, not to disable the mind of man, but to stir it up to seek help: for no man, be he never so cunning or practised, can make a straight line or perfect circle by steadiness of hand, which may be easily done by help of a ruler or compass.

This part of invention, concerning the invention of sciences, I purpose, if God give me leave, hereafter to propound, having digested it into two parts; whereof the one I term "Experientia Literata," and the other "Interpretatio Naturæ:" the former being

but a degeee and rudiment of the latter. But I will not dwell too long, nor speak too great upon a promise.

The invention of speech or argument is not properly an invention: for to invent is to discover that we know not, and not to recover or resummon that which we already know: and the use of this invention is no other but, out of the knowledge whereof our mind is already possessed, to draw forth or call before us that which may be pertinent to the purpose which we take into our consideration. So as, to speak truly, it is no invention, but a remembrance or suggestion, with an application; which is the cause why the schools do place it after judgment, as subsequent and not precedent. Nevertheless, because we do account it a chase, as well of deer in an inclosed park as in a forest at large, and that it hath already obtained the name, let it be called invention: so as it be perceived and discerned, that the scope and end of this invention is readiness and present use of our knowledge, and not addition or amplification thereof.

To procure this ready use of knowledge there are two courses, Preparation and Suggestion. The former of these seemeth scarcely a part of knowledge, consisting rather of diligence than of any artificial erudition. And herein Aristotle wittily, but hurtfully, doth deride the sophists near his time, saying, "they did as if one that professed the art "of shoe-making should not teach how to make a "shoe, but only exhibit, in a readiness a number of

"shoes of all fashions and sizes." But yet a man might reply, that if a shoemaker should have no shoes in his shop, but only work as he is bespoken, he should be weakly customed. But our Saviour, speaking of divine knowledge, saith, that the kingdom of heaven is like a good householder, that bringeth forth both new and old store; and we see the ancient writers of rhetoric do give it in precept, that pleaders should have the places, whereof they have most continual use, ready handled in all the variety that may be; as that, to speak for the literal interpretation of the law against equity, and contrary; and to speak for presumptions and inferences against testimony, and contrary. And Cicero himself, being broken unto it by great experience, delivereth it plainly, that whatsoever a man shall have occasion to speak of, if he will take the pains, he may have it in effect premeditate, and handled "in "thesi;" so that when he cometh to a particular, he shall have nothing to do, but to add names, and times, and places, and such other circumstances of individuals. We see likewise the exact diligence of Demosthenes; who, in regard of the great force that the entrance and access into causes hath to make a good impression, had ready framed a number of prefaces for orations and speeches. All which authorities and precedents may overweigh Aristotle's opinion, that would have us change a rich wardrobe for a pair of shears.

But the nature of the collection of this provision or preparatory store, though it be common both

to logic and rhetoric, yet having made an entry of it here, where it came first to be spoken of, I think fit to refer over the farther handling of it to rhetoric.

The other part of invention, which I term suggestion, doth assign and direct us to certain marks or places, which may excite our mind to return and produce such knowledge as it hath formerly collected, to the end we may make use thereof. Neither is this use, truly taken, only to furnish argument to dispute probably with others, but likewise to minister unto our judgment to conclude aright within ourselves. Neither may these places serve only to prompt our invention, but also to direct our inquiry. For a faculty of wise interrogating is half a knowledge. For as Plato saith, "Whosoever seeketh, "knoweth that which he seeketh for in a general "notion; else how shall he know it when he hath "found it?" And therefore the larger your anticipation is, the more direct and compendious is your search. But the same places which will help us what to produce of that which we know already, will also help us, if a man of experience were before us, what questions to ask; or, if we have books and authors to instruct us, what points to search and revolve: so as I cannot report that this part of invention, which is that which the schools call topics, is deficient.

Nevertheless topics are of two sorts, general and special. The general we have spoken to; but the particular hath been touched by some, but rejected

generally as inartificial and variable. But leaving the humour which hath reigned too much in the schools, which is, to be vainly subtle in a few things which are within their command, and to reject the rest; I do receive particular topics, (that is, places or directions of invention and inquiry in every particular knowledge,) as things of great use, being mixtures of logic with the matter of sciences; for in these it holdeth, "Ars inveniendi adolescit cum "inventis;" for as in going of a way, we do not only gain that part of the way which is passed, but we gain the better sight of that part of the way which remaineth: so every degree of proceeding in a science giveth a light to that which followeth; which light if we strengthen, by drawing it forth into questions or places of inquiry, we do greatly advance our pursuit.

Now we pass unto the arts of Judgment, which handle the natures of proofs and demonstrations; which as to induction hath a coincidence with invention; for in all inductions, whether in good or vicious form, the same action of the mind which inventeth, judgeth; all one as in the sense; but otherwise it is in proof by syllogism; for the proof being not immediate, but by mean, the invention of the mean is one thing, and the judgment of the consequence is another; the one exciting only, the other examining. Therefore, for the real and exact form of judgment, we refer ourselves to that which we have spoken of "Interpretation of nature."

For the other judgment by syllogism, as it is

a thing most agreeable to the mind of man, so it hath been vehemently and excellently laboured; for the nature of man doth extremely covet to have somewhat in his understanding fixed and immoveable, and as a rest and support of the mind. And therefore as Aristotle endeavoureth to prove, that in all motion there is some point quiescent; and as he elegantly expoundeth the ancient fable of Atlas, that stood fixed, and bare up the heaven from falling, to be meant of the poles or axle-tree of heaven, whereupon the conversion is accomplished: so assuredly men have a desire to have an Atlas or axle-tree within, to keep them from fluctuation, which is like to a perpetual peril of falling; therefore men did hasten to set down some principles about which the variety of their disputations might turn.

So then this art of judgment is but the reduction of propositions to principles in a middle term: the principles to be agreed by all and exempted from argument; the middle term to be elected at the liberty of every man's invention; the reduction to be of two kinds, direct and inverted; the one when the proposition is reduced to the principle, which they term a probation ostensive; the other, when the contradictory of the proposition is reduced to the contradictory of the principle, which is that which they call "per incommodum," or pressing an absurdity; the number of middle terms to be as the proposition standeth degrees more or less removed from the principle.

But this art hath two several methods of doctrine, the one by way of direction, the other by way of caution: the former frameth and setteth down a true form of consequence, by the variations and deflections from which errors and inconsequences may be exactly judged; toward the composition and structure of which form, it is incident to handle the parts thereof, which are propositions, and the parts of propositions, which are simple words: and this is that part of logic which is comprehended in the analytics.

The second method of doctrine was introduced for expedite use and assurance sake; discovering the more subtile forms of sophisms and illaqueations with their redargutions, which is that which is termed Elenches. For although in the more gross sorts of fallacies it happeneth, as Seneca maketh the comparison well, as in juggling feats, which though we know not how they are done, yet we know well it is not as it seemeth to be; yet the more subtle sort of them doth not only put a man beside his answer, but doth many times abuse his judgment.

This part concerning Elenches is excellently handled by Aristotle in precept, but more excellently by Plato in example, not only in the persons of the sophists, but even in Socrates himself; who professing to affirm nothing, but to infirm that which was affirmed by another, hath exactly expressed all the forms of objection, fallacy, and redargution. And although we have said that the use of this

doctrine is for redargution, yet it is manifest the degenerate and corrupt use is for caption and contradiction, which passeth for a great faculty, and no doubt is of very great advantage: though the difference be good which was made between orators and sophisters, that the one is as the greyhound, which hath his advantage in the race, and the other as the hare, which hath her advantage in the turn, so as it is the advantage of the weaker creature.

But yet further, this doctrine of Elenches hath a more ample latitude and extent than is perceived; namely, unto divers parts of knowledge; whereof some are laboured and others omitted. For first, I conceive, though it may seem at first somewhat strange, that that part which is variably referred, sometimes to logic, sometimes to metaphysics, touching the common adjuncts of essences, is but an elench; for the great sophism of all sophisms being equivocation or ambiguity of words and phrase, (especially of such words as are most general, and intervene, in every inquiry,) it seemeth to me that the true and fruitful use, leaving vain subtilties and speculations, of the inquiry of majority, minority, priority, posteriority, identity, diversity, possibility, act, totality, parts, existence, privation, and the like, are but wise cautions against ambiguities of speech. So again the distribution of things into certain tribes, which we call categories or predicaments, are but cautions against the confusion of definitions and divisions.

Secondly, there is a seducement that worketh by the strength of the impression, and not by the subtilty of the illaqueation; not so much perplexing the reason, as overruling it by power of the imagination. But this part I think more proper to handle when I shall speak of rhetoric.

But lastly, there is yet a much more important and profound kind of fallacies in the mind of man, which I find not observed or inquired at all, and think good to place here, as that which of all others appertaineth most to rectify judgment: the force whereof is such, as it doth not dazzle or snare the understanding in some particulars, but doth more generally and inwardly infect and corrupt the state thereof. For the mind of man is far from the nature of a clear and equal glass, wherein the beams of things should reflect according to their true incidence; nay, it is rather like an enchanted glass, full of superstition and imposture, if it be not delivered and reduced. For this purpose, let us consider the false appearances that are imposed upon us by the general nature of the mind, beholding them in an example or two; as first, in that instance which is the root of all superstition, namely, That to the nature of the mind of all men it is consonant for the affirmative or active to affect more than the negative or privative: so that a few times hitting or presence, countervails oft-times failing or absence; as was well answered by Diagoras to him that shewed him in Neptune's temple the great number of pictures of such as had escaped shipwreck and had paid their

vows to Neptune, saying, "Advise now, you that "think it folly to invocate Neptune in tempest:" "Yea, but," saith Diagoras, "where are they painted "that are drowned?" Let us behold it in another instance, namely, That the spirit of man, being of an equal and uniform substance, doth usually suppose and feign in nature a greater equality and uniformity than is in truth. Hence it cometh, that the mathematicians cannot satisfy themselves, except they reduce the motions of the celestial bodies to perfect circles, rejecting spiral lines, and labouring to be discharged of eccentrics. Hence it cometh, that whereas there are many things in nature, as it were "monodica, sui juris;" yet the cogitations of man do feign unto them relatives, parallels, and conjugates, whereas no such thing is; as they have feigned an element of fire, to keep square with earth, water, and air, and the like: nay, it is not credible, till it be opened, what a number of fictions and fancies the similitude of human actions and arts, together with the making of man "communis "mensura," have brought into Natural Philosophy; not much better than the heresy of the Anthropomorphites, bred in the cells of gross and solitary monks, and the opinion of Epicurus, answerable to the same in heathenism, who supposed the gods to be of human shape. And therefore Velleius the Epicurean needed not to have asked, why God should have adorned the heavens with stars, as if he had been an Ædilis, one that should have set forth some magnificent shews or plays. For if that great

Work-master had been of an human disposition, he would have cast the stars into some pleasant and beautiful works and orders, like the frets in the roofs of houses; whereas one can scarce find a posture in square, or triangle, or straight line, amongst such an infinite number; so differing an harmony there is between the spirit of Man and the spirit of Nature.

Let us consider again the false appearances imposed upon us by every man's own individual nature and custom, in that feigned supposition that Plato maketh of the cave: for certainly if a child were continued in a grot or cave under the earth until maturity of age, and came suddenly abroad, he would have strange and absurd imaginations. So in like manner, although our persons live in the view of heaven, yet our spirits, are included in the caves of our own complexions and customs, which minister unto us infinite errors and vain opinions, if they be not recalled to examination. But hereof we have given many examples in one of the errours, or peccant humours, which we ran briefly over in our first book.

And lastly, let us consider the false appearances that are imposed upon us by words, which are framed and applied according to the conceit and capacities of the vulgar sort: and although we think we govern our words, and prescribe it well "Loquendum ut vulgus, sentiendum ut sapientes;" yet certain it is that words, as a Tartar's bow, do shoot back upon the understanding of the wisest, and

mightily entangle and pervert the judgment; so as it is almost necessary, in all controversies and disputations, to imitate the wisdom of the mathematicians, in setting down in the very beginning the definitions of our words and terms, that others may know how we accept and understand them, and whether they concur with us or no. For it cometh to pass, for want of this, that we are sure to end there where we ought to have begun, which is, in questions and differences about words. To conclude therefore, it must be confessed that it is not possible to divorce ourselves from these fallacies and false appearances, because they are inseparable from our nature and condition of life; so yet nevertheless the caution of them, (for all elenches, as was said, are but cautions,) doth extremely import the true conduct of human judgment. The particular elenches or cautions against these three false appearances, I find altogether deficient.

There remaineth one part of judgment of great excellency, which to mine understanding is so slightly touched, as I may report that also deficient; which is the application of the differing kinds of proofs to the differing kinds of subjects; for there being but four kinds of demonstrations, that is, by the immediate consent of the mind or sense, by induction, by sophism, and by congruity (which is that which Aristotle calleth demonstration in orb or circle, and not "a notioribus;") every of these hath certain subjects in the matter of sciences, in

which respectively they have chiefest use; and certain others, from which respectively they ought to be excluded: and the rigour and curiosity in requiring the more severe proofs in some things, and chiefly the facility in contenting ourselves with the more remiss proofs in others, hath been amongst the greatest causes of detriment and hindrance to knowledge. The distributions and assignations of demonstrations, according to the analogy of sciences, I note as deficient.

The custody or retaining of knowledge is either in Writing or Memory; whereof writing hath two parts, the nature of the character, and the order of the entry; for the art of characters, or other visible notes of words or things, it hath nearest conjugation with grammar; and therefore I refer it to the due place: for the disposition and collocation of that knowledge which we preserve in writing, it consisteth in a good digest of common-places; wherein I am not ignorant of the prejudice imputed to the use of common-place books, as causing a retardation of reading, and some sloth or relaxation of memory. But because it is but a counterfeit thing in knowledges to be forward and pregnant, except a man be deep and full, I hold the entry of common-places, to be a matter of great use and essence in studying, as that which assureth "copia" of invention, and contracteth judgment to a strength. But this is true, that of the methods of common-places that I have seen, there is none of any sufficient worth;

all of them carrying merely the face of a school, and not of a world; and referring to vulgar matters and pedantical divisions, without all life, or respect to action.

For the other principal part of the custody of knowledge, which is Memory, I find that faculty in my judgment weakly inquired of. An art there is extant of it; but it seemeth to me that there are better precepts than that art, and better practices of that art, than those received. It is certain the art, as it is, may be raised to points of ostentation prodigious: but in use, as it is now managed, it is barren, (not burdensome, nor dangerous to natural memory, as is imagined, but barren,) that is, not dexterous to be applied to the serious use of business and occasions. And therefore I make no more estimation of repeating a great number of names or words upon once hearing, or the pouring forth of a number of verses or rhimes ex tempore, or the making of a satirical simile of every thing, or the turning of every thing to a jest, or the falsifying or contradicting of every thing by cavil, or the like, (whereof in the faculties of the mind there is great "copia," and such as by device and practice may be exalted to an extreme degree of wonder,) than I do of the tricks of tumblers, funambuloes, baladines; the one being the same in the mind that the other is in the body, matters of strangeness without worthiness.

This art of Memory is but built upon two intentions; the one prenotion, the other emblem. Prenotion dischargeth the indefinite seeking of that

we would remember, and directeth us to seek in a narrow compass, that is, sòmewhat that hath congruity with our place of memory. Emblem reduceth conceits intellectual to images sensible, which strike the memory more; out of which axioms may be drawn much better practice than that in use; and besides which axioms, there are divers more touching help of memory, not inferior to them. But I did in the beginning distinguish, not to report those things deficient, which are but only ill managed.

There remaineth the fourth kind of rational knowledge, which is transitive, concerning the expressing or transferring our knowledge to others; which I will term by the general name of tradition or delivery. Tradition hath three parts; the first concerning the organ of tradition; the second concerning the method of tradition; and the third concerning the illustration of tradition.

For the organ of tradition, it is either speech or writing: for Aristotle saith well, "Words are the "images of cogitations, and letters are the images "of words;" but yet it is not of necessity that cogitations be expressed by the medium of words. For whatsoever is capable of sufficient differences, and those perceptible by the sense, is in nature competent to express cogitations. And therefore we see in the commerce of barbarous people, that understand not one another's language, and in the practice of divers that are dumb and deaf, that men's minds are expressed in gestures, though not exactly, yet to serve the turn. And we understand further,

that it is the use of China, and the kingdoms of the high Levant, to write in characters real, which express neither letters nor words in gross, but things or notions; insomuch as countries and provinces, which understand not one another's language, can nevertheless read one another's writings, because the characters are accepted more generally than the languages do extend; and therefore they have a vast multitude of characters, as many, I suppose, as radical words.

These notes of cogitations are of two sorts; the one when the note hath some similitude or congruity with the notion; the other "ad placitum," having force only by contract or acceptation. Of the former sort are hieroglyphics and gestures. For as to hieroglyphics, things of ancient use, and embraced chiefly by the Ægyptians, one of the most ancient nations, they are but as continued impresses and emblems. And as for gestures, they are as transitory hieroglyphics, and are to hieroglyphics as words spoken are to words written, in that they abide not; but they have evermore, as well as the other, an affinity with the things signified: as Periander, being consulted with how to preserve a tyranny newly usurped, bid the messenger attend and report what he saw him do; and went into his garden and topped all the highest flowers: signifying, that it consisted in the cutting off and keeping low of the nobility and grandees. "Ad placitum," are the characters real before mentioned, and words: although some have been willing by curious inquiry,

or rather by apt feigning, to have derived imposition of names from reason and intendment; a speculation elegant, and, by reason it searcheth into antiquity, reverent; but sparingly mixed with truth, and of small fruit. This portion of knowledge, touching the notes of things, and cogitations in general, I find not inquired, but deficient. And although it may seem of no great use, considering that words and writings by letters do far excel all the other ways; yet because this part concerneth, as it were, the mint of knowledge, (for words are the tokens current and accepted for conceits, as moneys are for values, and that it is fit men be not ignorant that moneys may be of another kind than gold and silver,) I thought good to propound it to better inquiry.

Concerning speech and words, the consideration of them hath produced the science of Grammar: for man still striveth to reintegrate himself in those benedictions, from which by his fault he hath been deprived; and as he hath striven against the first general curse by the invention of all other arts, so hath he sought to come forth of the second general curse, which was the confusion of tongues, by the art of grammar: whereof the use in a mother tongue is small, in a foreign tongue more; but most in such foreign tongues as have ceased to be vulgar tongues, and are turned only to learned tongues. The duty of it is of two natures; the one popular, which is for the speedy and perfect attaining languages, as well for intercourse of speech as for understanding

of authors; the other philosophical, examining the power and nature of words, as they are the footsteps and prints of reason: which kind of analogy between words and reason is handled "sparsim," brokenly, though not intirely; and therefore I cannot report it deficient, though I think it very worthy to be reduced into a science by itself.

Unto grammar also belongeth, as an appendix, the consideration of the accidents of words; which are measure, sound, and elevation or accent, and the sweetness and harshness of them; whence hath issued some curious observations in rhetoric, but chiefly poesy, as we consider it, in respect of the verse, and not of the argument: wherein though men in learned tongues do tie themselves to the ancient measures, yet in modern languages it seemeth to me as free to make new measures of verses as of dances; for a dance is a measured pace, as a verse is a measured speech. In these things the sense is better judge than the art;

"Cœnæ fercula nostræ
"Mallem convivis quam placuisse cocis."

And of the servile expressing antiquity in an unlike and an unfit subject, it is well said, "Quod tempore "antiquum videtur, id incongruitate est maxime "novum."

For ciphers, they are commonly in letters or alphabets, but may be in words. The kinds of ciphers, besides the simple ciphers, with changes, and intermixtures of nulls and non-significants, are

many, according to the nature or rule of the infolding, wheel-ciphers, key-ciphers, doubles, &c. But the virtues of them, whereby they are to be preferred, are three; that they be not laborious to write and read; that they be impossible to decipher; and, in some cases, that they be without suspicion. The highest degree whereof is to write "omnia per "omnia;" which is undoubtedly possible, with a proportion quintuple at most of the writing infolding to the writing infolded, and no other restraint whatsoever. This art of ciphering, hath for relative an art of deciphering, by supposition unprofitable, but, as things are, of great use. For suppose that ciphers were well managed, there be multitudes of them which exclude the decipherer. But in regard of the rawness and unskilfulness of the hands through which they pass, the greatest matters are many times carried in the weakest ciphers.

In the enumeration of these private and retired arts, it may be thought I seek to make a great muster-roll of sciences, naming them for shew and ostentation, and to little other purpose. But let those which are skilful in them judge whether I bring them in only for appearance, or whether in that which I speak of them, though in few marks there be not some seed of proficience. And this must be remembered, that as there be many of great account in their countries and provinces, which, when they come up to the seat of the estate, are but of mean rank and scarcely regarded; so these arts,

being here placed with the principal and supreme sciences, seem petty things; yet to such as have chosen them to spend their labours and studies in them, they seem great matters.

For the method of tradition, I see it hath moved a controversy in our time. But as in civil business, if there be a meeting, and men fall at words, there is commonly an end of the matter for that time, and no proceeding at all; so in learning, where there is much controversy, there is many times little inquiry. For this part of knowledge of method seemeth to me so weakly inquired as I shall report it deficient.

Method hath been placed, and that not amiss, in logic, as a part of judgment: for as the doctrine of syllogisms comprehendeth the rules of judgment upon that which is invented, so the doctrine of method containeth the rules of judgment upon that which is to be delivered; for judgment precedeth delivery, as it followeth invention. Neither is the method or the nature of the tradition material only to the use of knowledge, but likewise to the progression of knowledge: for since the labour and life of one man cannot attain to perfection of knowledge, the wisdom of the tradition is that which inspireth the felicity of continuance and proceeding. And therefore the most real diversity of method, is of method referred to use, and method referred to progression; whereof the one may be termed magistral, and the other of probation.

The latter whereof seemeth to be "via deserta

"et interclusa." For as knowledges are now delivered, there is a kind of contract of errour between the deliverer and the receiver: for he that delivereth knowledge, desireth to deliver it in such form as may be best believed, and not as may be best examined; and he that receiveth knowledge, desireth rather present satisfaction, than expectant inquiry; and so rather not to doubt, than not to err: glory making the author not to lay open his weakness, and sloth making the disciple not to know his strength.

But knowledge that is delivered as a thread to be spun on, ought to be delivered and intimated, if it were possible, in the same method wherein it was invented; and so is it possible of knowledge induced. But in this same anticipated and prevented knowledge, no man knoweth how he came to the knowledge which he hath obtained. But yet nevertheless, "secundum majus et minus," a man may revisit and descend unto the foundations of his knowledge and consent; and so transplant it into another, as it grew in his own mind. For it is in knowledges as it is in plants: if you mean to use the plant, it is no matter for the roots; but if you mean to remove it to grow, then it is more assured to rest upon roots than slips: so the delivery of knowledges, as it is now used, is as of fair bodies of trees without the roots; good for the carpenter, but not for the planter. But if you will have sciences grow, it is less matter for the shaft or body of the tree, so you look well to the taking up of the roots: of

which kind of delivery the method of the mathematics, in that subject, hath some shadow; but generally I see it neither put in ure nor put in inquisition, and therefore note it for deficient.

Another diversity of method there is, which hath some affinity with the former, used in some cases by the discretion of the ancients, but disgraced since by the impostures of many vain persons, who have made it as a false light for their counterfeit merchandises; and that is, enigmatical and disclosed. The pretence whereof is, to remove the vulgar capacities from being admitted to the secrets of knowledges, and to reserve them to selected auditors, or wits of such sharpness as can pierce the veil.

Another diversity of method, whereof the consequence is great, is the delivery of knowledge in aphorisms, or in methods; wherein we may observe, that it hath been too much taken into custom, out of a few axioms or observations upon any subject, to make a solemn and formal art, filling it with some discourses, and illustrating it with examples and digesting it into a sensible method: but the writing in aphorisms hath many excellent virtues, whereto the writing in method doth not approach.

For first, it trieth the writer, whether he be superficial or solid: for aphorisms, except they should be ridiculous, cannot be made but of the pith and heart of sciences; for discourse of illustration is cut off; recitals of examples are cut off; discourse of connection and order is cut off; descriptions of practice are cut off; so there remaineth nothing to

fill the aphorisms but some good quantity of observation: and therefore no man can suffice, nor in reason will attempt to write aphorisms, but he that is sound and grounded. But in methods,

"Tantum series juncturaque pollet,
"Tantum de medio sumptis accedit honoris;"

as a man shall make a great shew of an art, which, if it were disjointed, would come to little. Secondly, methods are more fit to win consent or belief, but less fit to point to action; for they carry a kind of demonstration in orb or circle, one part illuminating another, and therefore satisfy; but particulars, being dispersed, so best agree with dispersed directions. And lastly, aphorisms, representing a knowledge broken, do invite men to inquire farther; whereas methods, carrying the shew of a total, do secure men, as if they were at farthest.

Another diversity of method, which is likewise of great weight, is the handling of knowledge by assertions and their proofs, or by questions and their determinations; the latter kind whereof, if it be immoderately followed, is as prejudicial to the proceeding of learning, as it is to the proceeding of an army to go about to besiege every little fort or hold. For if the field be kept, and the sum of the enterprise pursued, those smaller things will come in of themselves: indeed a man would not leave some important piece with an enemy at his back. In like manner, the use of confutation in the delivery of sciences ought to be very sparing; and to

serve to remove strong preoccupations and prejudgments, and not to minister and excite disputations and doubts.

Another diversity of method is, according to the subject or matter which is handled; for there is a great difference in delivery of the mathematics, which are the most abstracted of knowledges, and policy, which is the most immersed: and howsoever contention hath been moved, touching an uniformity of method in multiformity of matter, yet we see how that opinion, besides the weakness of it, hath been of ill desert towards learning, as that which taketh the way to reduce learning to certain empty and barren generalities; being but the very husks and shells of sciences, all the kernel being forced out and expulsed with the torture and press of the method: and therefore as I did allow well of particular topics for invention, so I do allow likewise of particular methods of tradition.

Another diversity of judgment in the delivery and teaching of knowledge is, according unto the light and presuppositions of that which is delivered; for that knowledge which is new, and foreign from opinions received, is to be delivered in another form than that that is agreeable and familiar; and therefore Aristotle, when he thinks to tax Democritus, doth in truth commend him, where he saith, "If "we shall indeed dispute, and not follow after simi-"litudes," &c. For those whose conceits are seated in popular opinions, need only but to prove or dispute; but those whose conceits are beyond po-

pular opinions, have a double labour; the one to make themselves conceived, and the other to prove and demonstrate: so that it is of necessity with them to have recourse to similitudes and translations to express themselves. And therefore in the infancy of learning, and in rude times, when those conceits which are now trivial were then new, the world was full of parables and similitudes; for else would men either have passed over without mark, or else rejected for paradoxes that which was offered before they had understood or judged. So in divine learning, we see how frequent parables and tropes are: for it is a rule, "That whatsoever "science is not consonant to presuppositions, must "pray in aid of similitudes."

There be also other diversities of methods, vulgar and received: as that of resolution or analysis, of constitution or systasis, of concealment or cryptic, &c. which I do allow well of, though I have stood upon those which are least handled and observed. All which I have remembered to this purpose, because I would erect and constitute one general inquiry, which seems to me deficient, touching the wisdom of tradition.

But unto this part of knowledge concerning methods doth farther belong not only to the architecture of the whole frame of a work, but also the several beams and columns thereof; not as to their stuff, but as to their quantity and figure: and therefore method considereth not only the disposition of the argument or subject, but likewise the proposi-

tions; not as to their truth or matter, but as to their limitation and manner. For herein Ramus merited better a great deal in reviving the good rules of propositions, Καθόλου πρῶτον κατὰ παντός, &c. than he did in introducing the canker of epitomes; and yet (as it is the condition of human things that, according to the ancient fables, "The most precious things have "the most pernicious keepers;") it was so, that the attempt of the one made him fall upon the other. For he had need be well conducted that should design to make axioms convertible, if he make them not withal circular, and "non promovent," or incurring into themselves: but yet the intention was excellent.

The other considerations of method, concerning propositions, are chiefly touching the utmost propositions, which limit the dimensions of sciences; for every knowledge may be fitly said, besides the profundity, (which is the truth and substance of it, that makes it solid,) to have a longitude and a latitude; accounting the latitude towards other sciences, and the longitude towards action; that is, from the greatest generality to the most particular precept: the one giveth rule how far one knowledge ought to intermeddle within the province of another, which is the rule they call Καθαυτὸ; the other giveth rule unto what degree of particularity a knowledge should descend: which latter I find passed over in silence, being in my judgment the more material; for certainly there must be somewhat left to practice; but how much is worthy the inquiry. We see remote

and superficial generalities do but offer knowledge to scorn of practical men; and are no more aiding to practice, than an Ortelius's universal map is to direct the way between London and York. The better sort of rules have been not unfitly compared to glasses of steel unpolished, where you may see the images of things, but first they must be filed: so the rules will help, if they be laboured and polished by practice. But how chrystalline they may be made at the first, and how far forth they may be polished aforehand, is the question; the inquiry whereof seemeth to me deficient.

There hath been also laboured and put in practice a method, which is not a lawful method, but a method of imposture; which is, to deliver knowledges in such manner, as men may speedily come to make a shew of learning who have it not: such was the travail of Raymundus Lullius, in making that art which bears his name; not unlike to some books of typocosmy, which have been made since; being nothing but a mass of words of all arts, to give men countenance, that those which use the terms might be thought to understand the art; which collections are much like a fripper's or broker's shop, that hath ends of every thing, but nothing of worth.

Now we descend to that part which concerneth the illustration of tradition, comprehended in that science which we call Rhetoric, or art of eloquence; a science excellent, and excellently well laboured. For although in true value it is inferior to wisdom,

(as it is said by God to Moses, when he disabled himself for want of this faculty, Aaron shall be thy speaker, and thou shalt be to him as God :) yet with people it is the more mighty : for so Solomon saith, "Sapiens corde appellabitur prudens, sed dulcis eloquio majora reperiet;" signifying, that profoundness of wisdom will help a man to a name or admiration, but that it is eloquence that prevaileth in an active life. And as to the labouring of it, the emulation of Aristotle with the rhetoricians of his time, and the experience of Cicero, hath made them in their works of rhetorics exceed themselves. Again, the excellency of examples of eloquence in the orations of Demosthenes and Cicero, added to the perfection of the precepts of eloquence, hath doubled the progression in this art; and therefore the deficiences which I shall note will rather be in some collections, which may as handmaids attend the art, than in the rules or use of the art itself.

Notwithstanding, to stir the earth a little about the roots of this science, as we have done of the rest; the duty and office of Rhetoric is, to apply reason to imagination for the better moving of the will. For we see reason is disturbed in the administration thereof by three means; by illaqueation or sophism, which pertains to logic; by imagination or impression, which pertains to rhetoric; and by passion or affection, which pertains to morality. And as in negotiation with others, men are wrought by cunning, by importunity, and by vehemency; so in this

negotiation within ourselves, men are undermined by inconsequences, solicited and importuned by impressions or observations, and transported by passions. Neither is the nature of man so unfortunately built, as that those powers and arts should have force to disturb reason, and not to establish and advance it: for the end of logic is, to teach a form of argument to secure reason, and not to intrap it; the end of morality is to procure the affections to obey reason, and not to invade it; the end of Rhetoric is, to fill the imagination to second reason, and not to oppress it: for these abuses of arts come in but "ex "obliquo," for caution.

And therefore it was great injustice in Plato, though springing out of a just hatred of the rhetoricians of his time, to esteem of Rhetoric but as a voluptuary art, resembling it to cookery, that did mar wholesome meats, and help unwholesome by variety of sauces to the pleasure of the taste. For we see that speech is much more conversant in adorning that which is good, than in colouring that which is evil; for there is no man but speaketh more honestly than he can do or think: and it was excellently noted by Thucydides in Cleon, that because he used to hold on the bad side in causes of estate, therefore he was ever inveighing against eloquence and good speech; knowing that no man can speak fair of courses sordid and base. And therefore as Plato said elegantly, "That Virtue, if she could be "seen, would move great love and affection;" so

seeing that she cannot be shewed to the sense by corporal shape, the next degree is to shew her to the imagination in lively representation: for to shew her to reason only in subtilty of argument, was a thing ever derided in Chrysippus and many of the Stoics; who thought to thrust virtue upon men by sharp disputations and conclusions, which have no sympathy with the will of man.

Again, if the affections in themselves were pliant and obedient to reason, it were true, there should be no great use of persuasions and insinuations to the will, more than of naked proposition and proofs; but in regard of the continual mutinies and seditions of the affections,

> "Video meliora, proboque;
> Deteriora sequor:"

reason would become captive and servile, if eloquence of persuasions did not practise and win the imagination from the affections part, and contract a confederacy between the reason and imagination against the affections; for the affections themselves carry ever an appetite to good, as reason doth. The difference is, that the affection beholdeth merely the present; reason beholdeth the future and sum of time. And therefore the present filling the imagination more, reason is commonly vanquished; but after that force of eloquence and persuasion hath made things future and remote appear as present, then upon the revolt of the imagination reason prevaileth.

We conclude, therefore, that Rhetoric can be no more charged with the colouring of the worse part, than logic with sophistry, or morality with vice. For we know the doctrines of contraries are the same, though the use be opposite. It appeareth also that logic differeth from Rhetoric, not only as the fist from the palm, the one close the other at large; but much more in this, that logic handleth reason exact and in truth, and rhetoric handleth it as it is planted in popular opinions and manners. And therefore Aristotle doth wisely place rhetoric as between logic on the one side, and moral or civil knowledge on the other, as participating of both: for the proofs and demonstrations of logic are toward all men indifferent and the same; but the proofs and persuasions of Rhetoric ought to differ according to the auditors:

"Orpheus in sylvis, inter delphinas Arion:"

which application, in perfection of idea, ought to extend so far, that if a man should speak of the same thing to several persons, he should speak to them all respectively in several ways: though this politic part of eloquence in private speech it is easy for the greatest orators to want; whilst, by the observing their well-graced forms of speech, they lose the volubility of application: and therefore it shall not be amiss to recommend this to better inquiry, not being curious whether we place it here, or in that part which concerneth policy.

Now therefore will I descend to the deficiences, which, as I said, are but attendances: and first, I do not find the wisdom and diligence of Aristotle well pursued, who began to make a collection of the popular *signs and colours of good* and evil, both simple and comparative, which are as the sophisms of Rhetoric, as I touched *before*. For example:

SOPHISMA.

"Quod laudatur, bonum: quod vituperatur, malum."

REDARGUTIO.

"Laudat venales qui vult extrudere merces.
"Malum est, malum est, inquit *emptor*: sed cum recesserit, tum *gloriabitur*!"

The defects in the labour of *Aristotle* are three: one, that there be but a few of many; another, that their elenches are not annexed: and the third, that he conceived but a part of the use of them: for their use is not only in probation, but much more in impression. For many forms are equal in signification which are differing in impression; as the difference is great in the piercing of that which is sharp and that which is flat, though the strength of the percussion be the same: for there is no man but will be a little more raised by hearing it said, "Your "enemies will be glad of this:"

"Hoc Ithacus velit, et magno mercentur Atridæ:"

than by hearing it said only, "This is evil for you."

Secondly, I do resume also that which I mentioned before, touching provision or preparatory store, for the furniture of speech and readiness of invention, which appeareth to be of two sorts; the

one in resemblance to a shop of pieces un-made up, the other to a shop of things ready made up; both to be applied to that which is frequent and most in request: the former of these I will call antitheta, and the latter formulæ.

Antitheta are theses argued "pro et contra;" wherein men may be more large and laborious: but, in such as are able to do it, to avoid prolixity of entry, I wish the seeds of the several arguments to be cast up into some brief and acute sentences, not to be cited, but to be as skains or bottoms of thread, to be unwinded at large when they come to be used; supplying authorities and examples by reference.

PRO VERBIS LEGIS.

"Non est interpretatio, sed divinatio, quæ recedit a literâ:
"Cum receditur a literâ, judex transit in legislatorem."

PRO SENTENTIA LEGIS.

"Ex omnibus verbis est eliciendus sensus qui interpretatur singula:"

Formulæ are but decent and apt passages or conveyances of speech, which may serve indifferently for differing subjects; as of preface, conclusion, digression, transition, excusation, &c. For as in buildings, there is great pleasure and use in the well-casting of the stair-cases, entries, doors, windows, and the like; so in speech, the conveyances and passages are of special ornament and effect.

A CONCLUSION IN A DELIBERATIVE.

"So may we redeem the faults passed, and prevent the inconveniences future."

There remain two appendices touching the tra-

dition of knowledge, the one critical, the other pedantical. For all knowledge is either delivered by teachers, or attained by men's proper endeavours: and therefore as the principal part of tradition of knowledge concerneth chiefly writing of books,, so the relative part thereof concerneth reading of books; whereunto appertain incidently these considerations. The first is concerning the true correction and edition of authors; wherein nevertheless rash diligence hath done great prejudice. For these critics have often presumed, that that which they understand not is false set down: as the priest that, where he found it written of St. Paul, "Demissus "est per sportam," mended his book, and made it "Demissus est per portam;" because sporta was a hard word, and out of his reading: and surely their errours, though they be not so palpable and ridiculous, are yet of the same kind. And therefore, as it hath been wisely noted, the most corrected copies are commonly the least correct.

The second is concerning the exposition and explication of authors, which resteth in annotations and commentaries: wherein it is over usual to blanch the obscure places, and discourse upon the plain.

The third is concerning the times, which in many cases give great light to true interpretations.

The fourth is concerning some brief censure and judgment of the authors; that men thereby may make some election unto themselves what books to read.

And the fifth is concerning the syntax and dis-

position of studies; that men may know in what order or pursuit to read.

For pedantical knowledge, it containeth that difference of tradition which is proper for youth; whereunto appertain divers considerations of great fruit.

As first, the timing and seasoning of knowledges; as with what to initiate them, and from what for a time to refrain them.

Secondly, the consideration where to begin with the easiest, and so proceed to the more difficult; and in what courses to press the more difficult, and then to turn them to the more easy: for it is one method to practise swimming with bladders, and another to practise dancing with heavy shoes.

A third is, the application of learning according unto the propriety of the wits; for there is no defect in the faculties intellectual, but seemeth to have a proper cure contained in some studies: as for example, if a child be bird-witted, that is, hath not the faculty of attention, the mathematics giveth a remedy thereunto; for in them, if the wit be caught away but a moment, one is to begin anew. And as sciences have a propriety towards faculties for cure and help, so faculties or powers have a sympathy towards sciences for excellency or speedy profiting; and therefore it is an inquiry of great wisdom, what kinds of wits and natures are most apt and proper for what sciences.

Fourthly, the ordering of exercises is matter of great consequence to hurt or help: for, as is well

observed by Cicero, men in exercising their faculties, if they be not well advised, do exercise their faults and get ill habits as well as good; so there is a great judgment to be had in the continuance and intermission of exercises. It were too long to particularize a number of other considerations of this nature, things but of mean appearance, but of singular efficacy. For as the wronging or cherishing of seeds or young plants is that that is most important to their thriving: (and as it was noted that the first six kings, being in truth as tutors of the state of Rome in the infancy thereof, was the principal cause of the immense greatness of that state which followed:) so the culture and manurance of minds in youth hath such a forcible, though unseen, operation, as hardly any length of time or contention of labour can countervail it afterwards. And it is not amiss to observe also how small and mean faculties gotten by education, yet when they fall into great men or great matters, do work great and important effects; whereof we see a notable example in Tacitus of two stage players, Percennius and Vibulenus, who by their faculty of playing put the Pannonian armies into an extreme tumult and combustion: for there arising a mutiny amongst them upon the death of Augustus Cæsar, Blæsus the lieutenant had committed some of the mutineers, which were suddenly rescued; whereupon Vibulenus got to be heard speak, which he did in this manner:—"These poor "innocent wretches, appointed to cruel death, you "have restored to behold the light; but who shall

"restore my brother to me, or life unto my brother, "that was sent hither in message from the legions "of Germany, to treat of the common cause? and he "hath murdered him this last night by some of his "fencers and ruffians, that he hath about him for his "executioners upon soldiers. Answer, Blæsus, what "is done with his body? The mortalest enemies do "not deny burial. When I have performed my last "duties to the corpse with kisses, with tears, com-"mand me to be slain beside him; so that these my "fellows, for our good meaning, and our true hearts "to the legions, may have leave to bury us." With which speech he put the army into an infinite fury and uproar: whereas truth was he had no brother, neither was there any such matter; but he played it merely as if he had been upon the stage.

But to return: we are now come to a period of Rational Knowledges; wherein if I have made the divisions other than those that are received, yet would I not be thought to disallow all those divisions which I do not use: for there is a double necessity imposed upon me of altering the divisions. The one, because it differeth in end and purpose, to sort together those things which are next in nature, and those things which are next in use; for if a secretary of state should sort his papers, it is like in his study or general cabinet he would sort together things of a nature, as treaties, instructions, &c. but in his boxes or particular cabinet he would sort together those that he were like to use together, though of several natures; so in this general cabinet

of knowledge it was necessary for me to follow the divisions of the nature of things; whereas if myself had been to handle any particular knowledge, I would have respected the divisions fittest for use. The other, because the bringing in of the deficiences did by consequence alter the partitions of the rest: for let the knowledge extant, for demonstration sake, be fifteen; let the knowledge with the deficiences be twenty; the parts of fifteen are not the parts of twenty; for the parts of fifteen are three and five; the parts of twenty are two, four, five, and ten; so as these things are without contradiction, and could not otherwise be.

We proceed now to that knowledge which considereth of the Appetite and Will of Man; whereof Solomon saith, "Ante omnia, fili, custodi cor tuum; "nam inde procedunt actiones vitæ." In the handling of this science, those which have written seem to me to have done as if a man, that professeth to teach to write, did only exhibit fair copies of alphabets and letters joined, without giving any precepts or directions for the carriage of the hand and framing of the letters: so have they made good and fair exemplars and copies, carrying the draughts and portraitures of good, virtue, duty, felicity; propounding them well described as the true objects and scopes of man's will and desires; but how to attain these excellent marks, and how to frame and subdue the Will of Man to become true and conformable to these pursuits, they pass it over alto-

gether, or slightly and unprofitably: for it is not the disputing, that moral virtues are in the mind of man by habit and not by nature, or the distinguishing that generous spirits are won by doctrines and persuasions, and the vulgar sort by reward and punishment, and the like scattered glances and touches, that can excuse the absence of this part.

The reason of this omission I suppose to be that hidden rock whereupon both this and many other barks of knowledge have been cast away; which is, that men have despised to be conversant in ordinary and common matters, (the judicious direction whereof nevertheless is the wisest doctrine, for life consisteth not in novelties or subtilities,) but contrariwise they have compounded sciences chiefly of a certain resplendent or lustrous mass of matter, chosen to give glory either to the subtilty of disputations, or to the eloquence of discourses. But Seneca giveth an excellent check to eloquence; "Nocet illis eloquentia, "quibus non rerum cupiditatem facit, sed sui." Doctrine should be such as should make men in love with the lesson, and not with the teacher; being directed to the auditor's benefit, and not to the author's commendation: and therefore those are of the right kind, which may be concluded as Demosthenes concludes his counsel, "Quæ si feceritis, non "oratorem duntaxat in præsentia laudabatis, sed "vosmetipsos etiam non ita multo post statu rerum "vestrarum meliore."

Neither needed men of so excellent parts to have despaired of a fortune, which the poet Virgil pro-

mised himself, and indeed obtained, who got as much glory of eloquence, wit, and learning in the expressing of the observations of husbandry, as of the heroical acts of Æneas: —

> "Nec sum animi dubius, verbis ea vincere magnum
> "Quam sit, et angustis his addere rebus honorem."
>
> *Georg. iii. 289.*

And surely, if the purpose be in good earnest, not to write at leisure that which men may read at leisure, but really to instruct and suborn action and active life, these Georgics of the mind, concerning the husbandry and tillage thereof, are no less worthy than the heroical descriptions of virtue, duty, and felicity. Wherefore the main and primitive division of moral knowledge seemeth to be into the Exemplar or Platform of Good, and the Regiment or Culture of the Mind; the one describing the nature of good, the other prescribing rules how to subdue, apply, and accommodate the Will of Man thereunto.

The doctrine touching the Platform or Nature of Good considereth it either simple or compared; either the kinds of good, or the degrees of good: in the latter whereof those infinite disputations which were touching the supreme degree thereof, which they term felicity, beatitude, or the highest good, the doctrines concerning which were as the heathen divinity, are by the Christian faith discharged. And as Aristotle saith, "That young men may be happy, "but not otherwise but by hope;" so we must all

acknowledge our minority, and embrace the felicity which is by hope of the future world.

Freed therefore and delivered from this doctrine of the philosopher's heaven, whereby they feigned an higher elevation of man's nature than was, (for we see in what an height of stile Seneca writeth, "Vere magnum, habere fragilitatem hominis, secu-"ritatem Dei," we may with more sobriety and truth receive the rest of their inquiries and labours; wherein for the nature of good positive or simple, they have set it down excellently, in describing the forms of virtue and duty, with their situations and postures; in distributing them into their kinds, parts, provinces, actions, and administrations, and the like: nay farther, they have commended them to man's nature and spirit, with great quickness of argument and beauty of persuasions; yea, and fortified and intrenched them, as much as discourse can do, against corrupt and popular opinions. Again, for the degrees and comparative nature of good, they have also excellently handled it in their triplicity of good, in the comparison between a contemplative and an active life, in the distinction between virtue with reluctation and virtue secured, in their encounters between honesty and profit, in their balancing of virtue with virtue, and the like; so as this part deserveth to be reported for excellently laboured.

Notwithstanding, if before they had come to the popular and received notions of virtue and vice, pleasure and pain, and the rest, they had stayed a little longer upon the inquiry concerning the roots

of good and evil, and the strings of those roots, they had given, in my opinion, a great light to that which followed; and especially if they had consulted with nature, they had made their doctrines less prolix and more profound: which being by them in part omitted and in part handled with much confusion, we will endeavour to resume and open in a more clear manner.

There is formed in every thing a double nature of good: the one, as every thing is a total or substantive in itself; the other, as it is a part or member of a greater body; whereof the latter is in degree the greater and the worthier, because it tendeth to the conservation of a more general form. Therefore we see the iron in particular sympathy moveth to the loadstone; but yet if it exceed a certain quantity, it forsaketh the affection to the loadstone, and like a good patriot moveth to the earth, which is the region and country of massy bodies: so may we go forward, and see that water and massy bodies move to the centre of the earth; but rather than to suffer a divulsion in the continuance of nature, they will move upwards from the centre of the earth, forsaking their duty to the earth in regard to their duty to the world. This double nature of good, and the comparative thereof, is much more engraven upon man, if he degenerate not; unto whom the conservation of duty to the public ought to be much more precious than the conservation of life and being: according to that memorable speech of Pompeius Magnus, when being in com-

mission of purveyance for a famine at Rome, and being dissuaded with great vehemency and instance by his friends about him, that he should not hazard himself to sea in an extremity of weather, he said only to them, "Necesse est ut eam, non ut vivam." But it may be truly affirmed that there was never any philosophy, religion, or other discipline, which did so plainly and highly exalt the good which is communicative, and depress the good which is private and particular, as the Holy Faith; well declaring, that it was the same God that gave the Christian law to men, who gave those laws of nature to inanimate creatures that we speak of before; for we read that the elected saints of God have wished themselves anathematized and razed out of the book of life, in an ecstasy of charity and infinite feeling of communion.

This being set down and strongly planted, doth judge and determine most of the controversies wherein moral philosophy is conversant. For first, it decideth the question touching the preferment of the contemplative or active life, and decideth it against Aristotle. For all the reasons which he bringeth for the contemplative are private, and respecting the pleasure and dignity of a man's self, in which respects, no question, the contemplative life hath the pre-eminence: not much unlike to that comparison, which Pythagoras made for the gracing and magnifying of philosophy and contemplation; who being asked what he was, answered, "That if "Hiero were ever at the Olympian games, he knew

"the manner, that some came to try their fortune "for the prizes, and some came as merchants to utter "their commodities, and some came to make good "cheer and meet their friends, and some came to "look on; and that he was one of them that came to "look on." But men must know, that in this theatre of man's life it is reserved only for God and Angels to be lookers on: neither could the like question ever have been received in the church (notwithstanding their "Pretiosa in oculis Domini mors sancto-"rum ejus," by which place they would exalt their civil death and regular professions), but upon this defence, that the monastical life is not simply contemplative, but performeth the duty either of incessant prayers and supplications, which hath been truly esteemed as an office in the church, or else of writing or in taking instructions for writing concerning the law of God, as Moses did when he abode so long in the mount. And so we see Enoch the seventh from Adam, who was the first contemplative, and walked with God, yet did also endow the church with prophecy, which St. Jude citeth. But for contemplation which should be finished in itself, without casting beams upon society, assuredly Divinity knoweth it not.

It decideth also the controversies between Zeno and Socrates, and their schools and successions, on the one side, who placed felicity in virtue simply or attended, the actions and exercises whereof do chiefly embrace and concern society; and on the other side, the Cyrenaics and Epicureans, who

placed it in pleasure, and made virtue, (as it is used in some comedies of errors, wherein the mistress and the maid change habits,) to be but as a servant, without which pleasure cannot be served and attended, and the reformed school of the Epicureans, which placed it in serenity of mind and freedom from perturbation, (as if they would have deposed Jupiter again, and restored Saturn and the first age, when there was no summer nor winter, spring nor autumn, but all after one air and season,) and Herillus, who placed felicity in extinguishment of the disputes of the mind, making no fixed nature of good and evil, esteeming things according to the clearness of the desires, or the reluctation; which opinion was revived in the heresy of the Anabaptists, measuring things according to the motions of the spirit, and the constancy or wavering of belief: all which are manifest to tend to private repose and contentment, and not to point of society.

It censureth also the philosophy of Epictetus, which presupposeth that felicity must be placed in those things which are in our power, lest we be liable to fortune and disturbance: as if it were not a thing much more happy to fail in good and virtuous ends for the public, than to obtain all that we can wish to ourselves in our proper fortune; as Gonsalvo said to his soldiers, shewing them Naples, and protesting, "He had rather die one foot forwards, than "to have his life secured for long by one foot of "retreat." Whereunto the wisdom of that heavenly leader hath signed, who hath affirmed that a good

conscience is a continual feast: shewing plainly that the conscience of good intentions, howsoever succeeding, is a more continual joy to nature, than all the provision which can be made for security and repose.

It censureth likewise that abuse of philosophy, which grew general about the time of Epictetus, in converting it into an occupation or profession; as if the purpose had been, not to resist and extinguish perturbations, but to fly and avoid the causes of them, and to shape a particular kind and course of life to that end; introducing such an health of mind, as was that health of body of which Aristotle speaketh of Herodicus, who did nothing all his life long but intend his health: whereas if men refer themselves to duties of society, as that health of body is best, which is ablest to endure all alterations and extremities; so likewise that health of mind is most proper, which can go through the greatest temptations and perturbations. So as Diogenes's opinion is to be accepted, who commended not them which abstained, but them which sustained, and could refrain their mind "in præcipitio," and could give unto the mind, as is used in horsemanship, the shortest stop or turn.

Lastly, it censureth the tenderness and want of application in some of the most ancient and reverend philosophers and philosophical men, that did retire too easily from civil business, for avoiding of indignities and perturbations: whereas the resolution of men truly moral ought to be such as the same Gon-

salvo said the honour of a soldier should be, "e "telâ crassiore," and not so fine as that every thing should catch in it and endanger it.

To resume private or particular good, it falleth into the division of good active and passive: for this difference of good, not unlike to that which amongst the Romans was expressed in the familiar or household terms of Promus and Condus, is formed also in all things, and is best disclosed in the two several appetites in creatures; the one to preserve or continue themselves, and the other to dilate or multiply themselves; whereof the latter seemeth to be the worthier: for in nature the heavens, which are the more worthy, are the agent; and the earth, which is the less worthy, is the patient. In the pleasures of living creatures, that of generation is greater than that of food; in divine doctrine, "Beatius est dare "quam accipere;" and in life, there is no man's spirit so soft, but esteemeth the effecting of somewhat that he hath fixed in his desire, more than sensuality: which priority of the active good, is much upheld by the consideration of our estate to be mortal and exposed to fortune: for if we might have a perpetuity and certainty in our pleasures, the state of them would advance their price; but when we see it is but "Magni æstimamus mori tardius," and "Ne glorieris de crastino, nescis partum diei," it maketh us to desire to have somewhat secured and exempted from time, which are only our deeds and works: as it is said "Opera eorum sequuntur eos." The pre-eminence likewise of this active good is up-

held by the affection which is natural in man towards variety and proceeding; which in the pleasures of the sense, which is the principal part of Passive Good, can have no great latitude: "Cogita quamdiu "eadem feceris; cibus, somnus, ludus per hunc cir-"culum curritur; mori velle non tantum fortis, aut "miser, aut prudens, sed etiam fastidiosus potest." But in enterprises, pursuits, and purposes of life, there is much variety; whereof men are sensible with pleasure in their inceptions, progressions, recoils, reintegrations, approaches and attainings to their ends: so as it was well said, "Vita sine "proposito languida et vaga est." Neither hath this Active Good an identity with the good of society, though in some case it hath an incidence into it: for although it do many times bring forth acts of beneficence, yet it is with a respect private to a man's own power, glory, amplification, continuance; as appeareth plainly, when it findeth a contrary subject. For that gigantine state of mind which possesseth the troublers of the world, (such as was Lucius Sylla, and infinite other in smaller model, who would have all men happy or unhappy as they were their friends or enemies, and would give form to the world, according to their own humours, which is the true theomachy,) pretendeth and aspireth to active good, though it recedeth farthest from good of society, which we have determined to be the greater.

To resume Passive Good, it receiveth a subdivision of conservative and perfective. For let us take

a brief review of that which we have said: we have spoken first of the good of society, the intention whereof embraceth the form of human nature, whereof we are members and portions, and not our own proper and individual form: we have spoken of active good, and supposed it as a part of private and particular good: and rightly, for there is impressed upon all things a triple desire or appetite proceeding from love to themselves; one of preserving and continuing their form; another of advancing and perfecting their form; and a third of multiplying and extending their form upon other things; whereof the multiplying, or signature of it upon other things, is that which we handled by the name of active good. So as there remaineth the conserving of it, and perfecting or raising of it; which latter is the highest degree of passive good. For to preserve in state is the less, to preserve with advancement is the greater. So in man,—

"Igneus est ollis vigor, et cœlestis origo."

His approach or assumption to divine or angelical nature is the perfection of his form; the error or false imitation of which good is that which is the tempest of human life; while man, upon the instinct of an advancement formal and essential, is carried to seek an advancement local. For as those which are sick, and find no remedy, do tumble up and down and change place, as if by a remove local they could obtain a remove internal; so is it with men in ambition, when failing of the means to exalt their nature, they are in a perpetual estuation to

exalt their place. So then Passive Good is, as was said, either conservative or perfective.

To resume the good of conservation or comfort, which consisteth in the fruition of that which is agreeable to our natures; it seemeth to be the most pure and natural of pleasures, but yet the softest and the lowest. And this also receiveth a difference, which hath neither been well judged of, nor well inquired: for the good of fruition or contentment is placed either in the sincereness of the fruition, or in the quickness and vigour of it; the one superinduced by the equality, the other by vicissitude; the one having less mixture of evil, the other more impression of good. Which of these is the greater good, is a question controverted; but whether man's nature may not be capable of both, is a question not inquired.

The former question being debated between Socrates and a sophist, Socrates placing felicity in an equal and constant peace of mind, and the sophist in much desiring and much enjoying, they fell from argument to ill words: the sophist saying that Socrates's felicity was the felicity of a block or stone; and Socrates saying that the sophist's felicity was the felicity of one that had the itch, who did nothing but itch and scratch. And both these opinions do not want their supports: for the opinion of Socrates is much upheld by the general consent even of the Epicures themselves, that virtue beareth a great part in felicity; and if so, certain it is, that virtue hath more use in clearing perturbations than

in compassing desires. The sophist's opinion is much favoured by the assertion we last spake of, that good of advancement is greater than good of simple preservation; because every obtaining a desire hath a shew of advancement, as motion though in a circle hath a shew of progression.

But the second question, decided the true way, maketh the former superfluous. For can it be doubted, but that there are some who take more pleasure in enjoying pleasures than some other, and yet nevertheless are less troubled with the loss or leaving of them? so as this same, "Non uti ut "non appetas, non appetere ut non metuas, sunt "animi pusilli et diffidentis." And it seemeth to me, that most of the doctrines of the philosophers are more fearful and cautionary than the nature of things requireth. So have they increased the fear of death in offering to cure it: for when they would have a man's whole life to be but a discipline or preparation to die, they must needs make men think that it is a terrible enemy, against whom there is no end of preparing. Better saith the poet:

> "Qui finem vitæ extremum inter munera ponat
> "Naturæ."

So have they sought to make men's minds too uniform and harmonical, by not breaking them sufficiently to contrary motions: the reason whereof I suppose to be, because they themselves were men dedicated to a private, free, and unapplied course of life. For as we see, upon the lute or like instrument, a ground, though it be sweet and have shew

of many changes, yet breaketh not the hand to such strange and hard stops and passages, as a set song or voluntary; much after the same manner was the diversity between a philosophical and a civil life. And therefore men are to imitate the wisdom of jewellers; who, if there be a grain, or a cloud, or an ice which may be ground forth without taking too much of the stone, they help it; but if it should lessen and abate the stone too much, they will not meddle with it: so ought men so to procure serenity as they destroy not magnanimity.

Having, therefore, deduced the good of man which is private and particular, as far as seemeth fit; we will now return to that good of man which respecteth and beholdeth society, which we may term Duty; because the term of Duty is more proper to a mind well framed and disposed towards others, as the term of virtue is applied to a mind well formed and composed in itself: though neither can a man understand virtue without some relation to society, nor Duty without an inward disposition. This part may seem at first to pertain to science civil and politic: but not if it be well observed; for it concerneth the regimen and government of every man over himself, and not over others. And as in architecture the direction of framing the posts, beams, and other parts of building, is not the same with the manner of joining them and erecting the building; and in mechanicals, the direction how to frame an instrument or engine, is not the same with the manner of setting it on work and

employing it, (and yet nevertheless in expressing of the one you incidently express the aptness towards the other;) so the doctrine of conjugation of men in society differeth from that of their conformity thereunto.

This part of Duty is subdivided into two parts; the common duty of every man, as a man or member of a state; the other, the respective or special duty of every man, in his profession, vocation, and place. The first of these is extant and well laboured, as hath been said. The second likewise I may report rather dispersed than deficient; which manner of dispersed writing in this kind of argument I acknowledge to be best: for who can take upon him to write of the proper duty, virtue, challenge, and right of every several vocation, profession and place? For although sometimes a looker on may see more than a gamester, and there be a proverb more arrogant than sound, "That the vale best discovereth the hill;" yet there is small doubt but that men can write best, and most really and materially, in their own professions; and that the writing of speculative men of active matter, for the most part, doth seem to men of experience, as Phormio's argument of the wars seemed to Hannibal, to be but dreams and dotage. Only there is one vice which accompanieth them that write in their own professions, that they magnify them in excess. But generally it were to be wished, as that which would make learning indeed solid and fruitful, that active men would or could become writers.

In which kind I cannot but mention, "honoris "causa," your majesty's excellent book touching the Duty of a King: a work richly compounded of divinity, morality, and policy, with great aspersion of all other arts; and being, in mine opinion, one of the most sound and healthful writings that I have read; not distempered in the heat of invention, nor in the coldness of negligence; not sick of business, as those are who lose themselves in their order, nor of convulsions, as those which cramp in matters impertinent; not savouring of perfumes and paintings, as those do who seek to please the reader more than nature beareth; and chiefly well disposed in the spirits thereof, being agreeable to truth and apt for action; and far removed from that natural infirmity, whereunto I noted those that write in their own professions to be subject, which is, that they exalt it above measure: for your majesty hath truly described, not a King of Assyria or Persia in their extern glory, but a Moses or a David, pastors of their people. Neither can I ever leese out of my remembrance, what I heard your majesty in the same sacred spirit of government deliver in a great cause of judicature, which was, "That Kings ruled "by their laws, as God did by the laws of nature; "and ought as rarely to put in use their supreme "prerogative, as God doth his power of working "miracles." And yet notwithstanding, in your book of a free monarchy, you do well give men to understand, that you know the plenitude of the power and right of a King, as well as the circle of his office

and duty. Thus have I presumed to allege this excellent writing of your majesty, as a prime or eminent example of tractates concerning special and respective duties: wherein I should have said as much, if it had been written a thousand years since: neither am I moved with certain courtly decencies, which esteem it flattery to praise in presence: no, it is flattery to praise in absence; that is, when either the virtue is absent, or the occasion is absent; and so the praise is not natural, but forced, either in truth or in time. But let Cicero be read in his oration pro Marcello, which is nothing but an excellent table of Cæsar's virtue, and made to his face; besides the example of many other excellent persons, wiser a great deal than such observers; and we will never doubt, upon a full occasion, to give just praises to present or absent.

But to return: there belongeth further to the handling of this part, touching the duties of professions and vocations, a relative or opposite, touching the frauds, cautels, impostures, and vices of every profession, which hath been likewise handled: but how? rather in a satire and cynically, than seriously and wisely: for men have rather sought by wit to deride and traduce much of that which is good in professions, than with judgment to discover and sever that which is corrupt. For, as Solomon saith, he that cometh to seek after knowledge with a mind to scorn and censure, shall be sure to find matter for his humour, but no matter for his instruction; "Quærenti derisori scientiam ipsa se abscondit; sed

"studioso fit obviam." But the managing of this argument with integrity and truth, which I note as deficient, seemeth to me to be one of the best fortifications for honesty and virtue that can be planted. For, as the fable goeth of the basilisk, that if he see you first, you die for it; but if you see him first, he dieth: so is it with deceits and evil arts; which, if they be first espied, they leese their life; but if they prevent, they endanger. So that we are much beholden to Machiavel and others, that write what men do, and not what they ought to do. For it is not possible to join serpentine wisdom with the columbine innocency, except men know exactly all the conditions of the serpent; his baseness and going upon his belly, his volubility and lubricity, his envy and sting, and the rest; that is, all forms and natures of evil: for without this, virtue lieth open and unfenced. Nay, an honest man can do no good upon those that are wicked, to reclaim them, without the help of the knowledge of evil. For men of corrupted minds presuppose that honesty groweth out of simplicity of manners, and believing of preachers, schoolmasters, and men's exterior language: so as, except you can make them perceive that you know the utmost reaches of their own corrupt opinions, they despise all morality; "Non "recipit stultus verba prudentiæ, nisi ea dixeris quæ "versantur in corde ejus."

Unto this part, touching respective duty, doth also appertain the duties between husband and wife, parent and child, master and servant: so likewise

the laws of friendship and gratitude, the civil bond of companies, colleges, and politic bodies, of neighbourhood, and all other proportionate duties; not as they are parts of government and society, but as to the framing of the mind of particular persons.

The knowledge concerning good respecting society doth handle it also, not simply alone, but comparatively; whereunto belongeth the weighing of duties between person and person, case and case, particular and public: as we see in the proceeding of Lucius Brutus against his own sons, which was so much extolled; yet what was said?

"Infelix, utcunque ferent ea fata minores."

So the case was doubtful, and had opinion on both sides. Again, we see when M. Brutus and Cassius invited to a supper certain whose opinions they meant to feel, whether they were fit to be made their associates, and cast forth the question touching the killing of a tyrant being an usurper, they were divided in opinion; some holding that servitude was the extreme of evils, and others that tyranny was better than a civil war: and a number of the like cases there are of comparative duty; amongst which that of all others is the most frequent, where the question is of a great deal of good to ensue of a small injustice, which Jason of Thessalia determined against the truth: "Aliqua sunt injuste facienda, "ut multa juste fieri possint." But the reply is good, "Auctorem præsentis justitiæ habes, spon-

"sorem futuræ non habes." Men must pursue things which are just in present, and leave the future to the divine Providence. So then we pass on from this general part touching the exemplar and description of good.

Now therefore that we have spoken of this fruit of life, it remaineth to speak of the husbandry that belongeth thereunto; without which part the former seemeth to be no better than a fair image, or statua, which is beautiful to contemplate, but is without life and motion: whereunto Aristotle himself subscribeth in these words: "Necesse est scilicet de "virtute dicere, et quid sit, et ex quibus gignatur. "Inutile enim fere fuerit virtutem quidem nosse, "acquirendæ autem ejus modos et vias ignorare: "non enim de virtute tantum, qua specie sit, quæ-"rendum est, sed et quomodo sui copiam faciat; "utrumque enim volumus, et rem ipsam nosse, et "ejus compotes fieri: hoc autem ex voto non suc-"cedet, nisi sciamus et ex quibus et quomodo." In such full words and with such iteration doth he inculcate this part. So saith Cicero in great commendation of Cato the second, that he had applied himself to philosophy, "non ita disputandi causa, "sed ita vivendi." And although the neglect of our times, wherein few men do hold any consultations touching the reformation of their life, (as Seneca excellently saith) "De partibus vitæ quisque de-"liberat de summâ nemo," may make this part seem superfluous; yet I must conclude with that aphorism of Hippocrates, "Qui gravi morbo correpti dolores

"non sentiunt, iis mens ægrotat;" they need medicine, not only to assuage the disease, but to awake the sense. And if it be said, that the cure of men's minds belongeth to sacred divinity, it is most true: but yet moral philosophy may be preferred unto her as a wise servant and humble handmaid. For as the Psalm saith, that the eyes of the handmaid look perpetually towards the mistress, and yet no doubt many things are left to the discretion of the handmaid, to discern of the mistress's will; so ought moral philosophy to give a constant attention to the doctrines of divinity, and yet so as it may yield of herself, within due limits, many sound and profitable directions.

This part therefore, because of the excellency thereof, I cannot but find exceeding strange that it is not reduced to written inquiry: the rather, because it consisteth of much matter, wherein both speech and action is often conversant; and such wherein the common talk of men, (which is rare, but yet cometh sometimes to pass,) is wiser than their books. It is reasonable therefore that we propound it in the more particularity, both for the worthiness, and because we may acquit ourselves for reporting it deficient; which seemeth almost incredible, and is otherwise conceived and presupposed by those themselves that have written. We will therefore enumerate some heads or points thereof, that it may appear the better what it is, and whether it be extant.

First, therefore, in this, as in all things which

are practical, we ought to cast up our account, what is in our power, and what not; for the one may be dealt with by way of alteration, but the other by way of application only. The husbandman cannot command, neither the nature of the earth, nor the seasons of the weather; no more can the physician the constitution of the patient, nor the variety of accidents: so in the culture and cure of the mind of man, two things are without our command; points of nature, and points of fortune; for to the basis of the one, and the conditions of the other, our work is limited and tied. In these things therefore, it is left unto us to proceed by application.

"Vincenda est omnis fortuna ferendo:"

and so likewise,

"Vincenda est omnis natura ferendo."

But when that we speak of suffering, we do not speak of a dull and neglected suffering, but of a wise and industrious suffering, which draweth and contriveth use and advantage out of that which seemeth adverse and contrary; which is that properly which we call accommodating or applying. Now the wisdom of application resteth principally in the exact and distinct knowledge of the precedent state or disposition, unto which we do apply: for we cannot fit a garment, except we first take measure of the body.

So then the first article of this knowledge is, to set down sound and true distributions and descriptions of the several characters and tempers of men's

natures and dispositions; especially having regard to those differences which are most radical in being the fountains and causes of the rest, or most frequent in concurrence or commixture; wherein it is not the handling of a few of them in passage, the better to describe the mediocrities of virtues, that can satisfy this intention. For if it deserve to be considered, "that there are minds which are proportioned to great matters, and others to small," (which Aristotle handleth, or ought to have handled, by the name of magnanimity;) doth it not deserve as well to be considered, "that there are minds proportioned to intend many matters, and others to few?" So that some can divide themselves: others can perchance do exactly well, but it must be but in few things at once: and so there cometh to be a narrowness of mind, as well as a pusillanimity. And again, "that some minds are proportioned to that which may be dispatched at once, or within a short return of time; others to that which begins a far off, and is to be won with length of pursuit;"

"Jam tum tenditque fovetque."

So that there may be fitly said to be a longanimity, which is commonly also ascribed to God as a magnanimity. So further deserved it to be considered by Aristotle; "that there is a disposition in conversation, (supposing it in things which do in no sort touch or concern a man's self,) to soothe and please; and a disposition contrary to contradict and cross:" and deserveth it not much better to be

considered, "that there is a disposition, not in con-
"versation or talk, but in matter of more serious
"nature, (and supposing it still in things merely in-
"different,) to take pleasure in the good of another;
"and a disposition contrariwise, to take distaste at
"the good of another?" which is that properly which we call good-nature or ill-nature, benignity or malignity: and therefore I cannot sufficiently marvel that this part of knowledge, touching the several characters of natures and dispositions, should be omitted both in morality and policy; considering it is of so great ministry and suppeditation to them both. A man shall find in the traditions of astrology some pretty and apt dvisions of men's natures, according to the predominances of the planets; lovers of quiet, lovers of action, lovers of victory, lovers of honour, lovers of pleasure, lovers of arts, lovers of change, and so forth. A man shall find in the wisest sort of these relations which the Italians make touching conclaves, the natures of the several cardinals handsomely and livelily painted forth: a man shall meet with, in every day's conference, the denominations of sensitive, dry, formal, real, humourous, certain, "huomo di prima impressione, "huomo di ultima impressione," and the like: and yet nevertheless this kind of observations wandereth in words, but is not fixed in inquiry. For the distinctions are found, many of them, but we conclude no precepts upon them: wherein our fault is the greater; because both history, poesy, and daily experience are as goodly fields where these obser-

vations grow; whereof we make a few posies to hold in our hands, but no man bringeth them to the confectionary, that receipts might be made of them for the use of life.

Of much like kind are those impressions of nature, which are imposed upon the mind by the sex, by the age, by the region, by health and sickness, by beauty and deformity, and the like, which are inherent and not external; and again, those which are caused by external fortune; as sovereignty, nobility, obscure birth, riches, want, magistracy, privateness, prosperity, adversity, constant fortune, variable fortune, rising "per saltum," "per gradus," and the like. And therefore we see that Plautus maketh it a wonder to see an old man beneficent, "benignitas hujus ut adolescentuli est." St. Paul concludeth, that severity of discipline was to be used to the Cretans, "Increpa eos durè," upon "the disposition of their country, "Cretenses semper mendaces, malæ bestiæ, ventres pigri." Sallust noteth, that it is usual with kings to desire contradictories: "Sed plerumque regiæ voluntates, ut "vehementes sunt, sic mobiles, sæpeque ipsæ sibi "adversæ." Tacitus observeth how rarely raising of the fortune mendeth the disposition: "Solus "Vespasianus mutatus in melius." Pindarus maketh an observation, that great and sudden fortune for the most part defeateth men "Qui magnam "felicitatem concoquere non possunt." So the Psalm sheweth it is more easy to keep a measure in the enjoying of fortune, than in the increase of for-

tune: "Divitiæ si affluant, nolite cor apponere." These observations, and the like, I deny not but are touched a little by Aristotle, as in passage, in his Rhetorics, and are handled in some scattered discourses: but they were never incorporated into moral philosophy, to which they do essentially appertain; as the knowledge of the diversity of grounds and moulds doth to agriculture, and the knowledge of the diversity of complexions and constitutions doth to the physician; except we mean to follow the indiscretion of empirics, which minister the same medicines to all patients.

Another article of this knowledge is the inquiry touching the affections; for as in medicining of the body, it is in order first to know the divers complexions and constitutions; secondly, the diseases; and lastly, the cures: so in medicining of the mind, after knowledge of the divers characters of men's natures, it followeth, in order, to know the diseases and infirmities of the mind, which are no other than the perturbations and distempers of the affections. For as the ancient politicians in popular states were wont to compare the people to the sea, and the orators to the winds; because as the sea would of itself be calm and quiet, if the winds did not move and trouble it; so the people would be peaceable and tractable, if the seditious orators did not set them in working and agitation: so it may be fitly said, that the mind in the nature thereof would be temperate and stayed, if the affections, as winds, did not put it into tumult and perturbation. And

here again I find strange, as before, that Aristotle should have written divers volumes of Ethics, and never handled the affections, which is the principal subject thereof; and yet in his Rhetorics, where they are considered but collaterally, and in a second degree, as they may be moved by speech, he findeth place for them, and handleth them well for the quantity; but where their true place is, he pretermitteth them. For it is not his disputations about pleasure and pain that can satisfy this inquiry, no more than he that should generally handle the nature of light, can be said to handle the nature of colours; for pleasure and pain are to the particular affections, as light is to particular colours. Better travails, I suppose, had the Stoics taken in this argument, as far as I can gather by that which we have at second hand. But yet, it is like, it was after their manner, rather in subtilty of definitions, (which in a subject of this nature, are but curiosities,) than in active and ample descriptions and observations. So likewise I find some particular writings of an elegant nature, touching some of the affections; as of anger, of comfort upon adverse accidents, of tenderness of countenance, and other.

But the poets and writers of histories are the best doctors of this knowledge; where we may find painted forth with great life, how affections are kindled and incited; and how pacified and refrained; and how again contained from act and further degree; how they disclose themselves; how they work; how they vary; how they gather and fortify;

how they are inwrapped one within another; and how they do fight and encounter one with another; and other the like particularities: amongst the which this last is of special use in moral and civil matters; how, I say, to set affection against affection, and to master one by another; even as we use to hunt beast with beast, and fly bird with bird, which otherwise perhaps we could not so easily recover: upon which foundation is erected that excellent use of "præmium" and "pœna," whereby civil states consist; employing the predominant affections of fear and hope, for the suppressing and bridling the rest. For as in the government of states it is sometimes necessary to bridle one faction with another, so it is in the government within.

Now come we to those points which are within our own command, and have force and operation upon the mind, to affect the will and appetite, and to alter manners: wherein they ought to have handled custom, exercise habit, education, example, imitation, emulation, company, friends, praise, reproof, exhortation, fame, laws, books, studies: these as they have determinate use in moralities, from these the mind suffereth; and of these are such receipts and regimens compounded and described, as may seem to recover or preserve the health and good estate of the mind, as far as pertaineth to human medicine: of which number we will insist upon some one or two, as an example of the rest, because it were too long to prosecute all; and therefore we do resume custom and habit to speak of.

The opinion of Aristotle seemeth to me a negligent opinion, that of those things which consist by nature, nothing can be changed by custom; using for example, that if a stone be thrown ten thousand times up, it will not learn to ascend; and that by often seeing or hearing, we do not learn to see or hear the better. For though this principle be true in things wherein nature is peremptory (the reason whereof we cannot now stand to discuss,) yet it is otherwise in things wherein nature admitteth a latitude. For he might see that a strait glove will come more easily on with use; and that a wand will by use bend otherwise than it grew; and that by use of the voice we speak louder and stronger; and that by use of enduring heat or cold, we endure it the better, and the like: which latter sort have a nearer resemblance unto that subject of manners he handleth, than those instances which he allegeth. But allowing his conclusion, that virtues and vices consist in habit, he ought so much the more to have taught the manner of superinducing that habit: for there be many precepts of the wise ordering the exercises of the mind, as there is of ordering the exercises of the body; whereof we will recite a few.

The first shall be, that we beware we take not at the first either too high a strain, or too weak: for if too high, in a diffident nature you discourage; in a confident nature you breed an opinion of facility, and so a sloth; and in all natures you breed a further expectation than can hold out, and so an insatisfaction on the end: if too weak, of the other side,

you may not look to perform and overcome any great task.

Another precept is, to practise all things chiefly at two several times, the one when the mind is best disposed, the other when it is worst disposed; that by the one you may gain a great step, by the other you may work out the knots and stonds of the mind, and make the middle times the more easy and pleasant.

Another precept is that which Aristotle mentioneth by the way, which is, to bear ever towards the contrary extreme of that whereunto we are by nature inclined: like unto the rowing against the stream, or making a wand straight by bending him contrary to his natural crookedness.

Another precept is, that the mind is brought to any thing better, and with more sweetness and happiness, if that whereunto you pretend be not first in the intention, but "tanquam aliud agendo," because of the natural hatred of the mind against necessity and constraint. Many other axioms there are touching the managing of exercise and custom; which, being so conducted, doth prove indeed another nature; but being governed by chance, doth commonly prove but an ape of nature, and bringeth forth that which is lame and counterfeit.

So if we should handle books and studies, and what influence and operation they have upon manners, are there not divers precepts of great caution and direction appertaining thereunto? Did not one of the fathers in great indignation call poesy "vinum

"dæmonum," because it increaseth temptations, perturbations, and vain opinions? Is not the opinion of Aristotle worthy to be regarded, wherein he saith, "That young men are no fit auditors of moral "philosophy, because they are not settled from the "boiling heat of their affections, nor attempered "with time and experience?" And doth it not hereof come, that those excellent books and discourses of the ancient writers, (whereby they have persuaded unto virtue most effectually, by representing her in state and majesty, and popular opinions against virtue in their parasites' coats, fit to be scorned and derided,) are of so little effect towards honesty of life, because they are not read and revolved by men in their mature and settled years, but confined almost to boys and beginners? But is it not true also, that much less young men are fit auditors of matters of policy, till they have been thoroughly seasoned in religion and morality; lest their judgments be corrupted, and made apt to think that there are no true differences of things, but according to utility and fortune, as the verse describes it,

"Prosperum et felix scelus virtus vocatur:"

and again,

"Ille crucem pretium sceleris tulit, hic diadema:"

which the poets do speak satirically, and in indignation on virtue's behalf; but books of policy do speak it seriously and positively; for so it pleaseth Machiavel to say, "that if Cæsar had been overthrown,

"he would have been more odious than ever was "Catiline;" as if there had been no difference, but in fortune, between a very fury of lust and blood, and the most excellent spirit (his ambition reserved) of the world? Again, is there not a caution likewise to be given of the doctrines of moralities themselves, (some kinds of them,) lest they make men too precise, arrogant, incompatible; as Cicero saith of Cato, "In Marco Catone hæc bona quæ videmus "divina et egregia, ipsius scitote esse propria; quæ "nonnunquam requirimus, ea sunt omnia non a na-"turâ, sed a magistro?" Many other axioms and advices there are touching those proprieties and effects, which studies do infuse and instil into manners. And so likewise is there touching the use of all those other points, of company, fame, laws, and the rest, which we recited in the beginning in the doctrine of morality.

But there is a kind of culture of the mind that seemeth yet more accurate and elaborate than the rest, and is built upon this ground; that the minds of all men are at some times in a state more perfect, and at other times in a state more depraved. The purpose therefore of this practice is, to fix and cherish the good hours of the mind, and to obliterate and take forth the evil. The fixing of the good hath been practised by two means, vows or constant resolutions, and observances or exercises; which are not to be regarded so much in themselves, as because they keep the mind in continual obedience. The obliteration of the evil hath been practised by two

means, some kind of redemption or expiation of that which is past, and an inception or account "de "novo," for the time to come. But this part seemeth sacred and religious, and justly; for all good moral philosophy, as was said, is but an handmaid to religion.

Wherefore we will conclude with that last point, which is of all other means the most compendious and summary, and again, the most noble and effectual to the reducing of the mind unto virtue and good estate; which is, the electing and propounding unto a man's self good and virtuous ends of his life, such as may be in a reasonable sort within his compass to attain. For if these two things be supposed, that a man set before him honest and good ends, and again, that he be resolute, constant, and true unto them; it will follow that he shall mould himself into all virtue at once. And this indeed is like the work of nature; whereas the other course is like the work of the hand. For as when a carver makes an image, he shapes only that part whereupon he worketh, (as if he be upon the face, that part which shall be the body is but a rude stone still, till such time as he comes to it;) but, contrariwise, when nature makes a flower or living creature, she formeth rudiments of all the parts at one time: so in obtaining virtue by habit, while a man practiseth temperance, he doth not profit much to fortitude, nor the like; but when he dedicateth and applieth himself to good ends, look, what virtue soever the pursuit and passage towards those ends doth commend unto

him, he is invested of a precedent disposition to conform himself thereunto. Which state of mind Aristotle doth excellently express himself, that it ought not to be called virtuous, but divine: his words are these: "Immanitati autem consentaneum "est opponere eam, quæ supra humanitatem est, "heroicam sive divinam virtutem:" and a little after, "Nam ut feræ neque vitium neque virtus "est, sic neque Dei: sed hic quidem status altius "quiddam virtute est, ille aliud quiddam a vitio." And therefore we may see what celsitude of honour Plinius Secundus attributeth to Trajan in his funeral oration; where he said, "that men needed to make "no other prayers to the gods, but that they would "continue as good lords to them as Trajan had "been;" as if he had not been only an imitation of divine nature, but a pattern of it. But these be heathen and profane passages, having but a shadow of that divine state of mind, which religion and the holy faith doth conduct men unto, by imprinting upon their souls charity, which is excellently called the bond of perfection, because it comprehendeth and fasteneth all virtues together. And it is elegantly said by Menander of vain love, which is but a false imitation of divine love, "Amor melior sophista lævo ad humanam vitam," that love teacheth a man to carry himself better than the sophist or preceptor; which he calleth left-handed, because, with all his rules and precepts, he cannot form a man so dexterously, nor with that facility to prize himself and govern himself, as love can do: so

certainly, if a man's mind be truly inflamed with charity, it doth work him suddenly into greater perfection than all the doctrine of morality can do, which is but a sophist in comparison of the other. Nay further, as Xenophon observed truly, that all other affections, though they raise the mind, yet they do it by distorting and uncomeliness of ecstasies or excesses; but only love doth exalt the mind, and nevertheless at the same instant doth settle and compose it: so in all other excellencies, though they advance nature, yet they are subject to excess; only charity admitteth no excess. For so we see, aspiring to be like God in power, the angels transgressed and fell; "Ascendam, et ero similis Altissimo:" by aspiring to be like God in knowledge, man transgressed and fell; "Eritis sicut Dii, scientes bonum et malum:" but by aspiring to a similitude of God in goodness or love, neither man nor angel ever transgressed, or shall transgress. For unto that imitation we are called: "Diligite inimicos vestros, benefacite eis qui oderunt vos, et orate pro persequentibus et calumniantibus vos, ut sitis filii Patris vestri qui in cœlis est, qui solem suum oriri facit super bonos et malos, et pluit super justos et injustos." So in the first platform of the divine nature itself, the heathen religion speaketh thus, "Optimus Maximus:" and the sacred Scriptures thus, "Misericordia ejus super omnia opera ejus."

Wherefore I do conclude this part of moral knowledge, concerning the culture and regimen of

the mind; wherein if any man, considering the parts thereof which I have enumerated, do judge that my labour is but to collect into an art or science that which hath been pretermitted by others, as matter of common sense and experience, he judgeth well. But as Philocrates sported with Demosthenes, "You may not marvel, Athenians, "that Demosthenes and I do differ; for he drinketh "water, and I drink wine;" and like as we read of an ancient parable of the two gates of sleep,

"Sunt geminæ somni portæ: quarum altera fertur
"Cornea, qua veris facilis datur exitus umbris:
"Altera candenti perfecta nitens elephanto,
"Sed falsa ad cœlum mittunt insomnia manes:"

so if we put on sobriety and attention, we shall find it a sure maxim in knowledge, that the more pleasant liquor of wine is the more vaporous, and the braver gate of ivory sendeth forth the falser dreams.

But we have now concluded that general part of human philosophy, which contemplateth man segregate, and as he consisteth of body and spirit. Wherein we may further note, that there seemeth to be a relation or conformity between the good of the mind and the good of the body. For as we divided the good of the body into health, beauty, strength, and pleasure; so the good of the mind, inquired in rational and moral knowledges, tendeth to this, to make the mind sound, and without perturbation; beautiful, and graced with

decency; and strong and agile for all duties of life. These three, as in the body, so in the mind, seldom meet, and commonly sever. For it is easy to observe, that many have strength of wit and courage, but have neither health from perturbations, nor any beauty or decency in their doings: some again have an elegancy and fineness of carriage, which have neither soundness of honesty, nor substance of sufficiency: and some again have honest and reformed minds, that can neither become themselves, nor manage business: and sometimes two of them meet, and rarely all three. As for pleasure, we have likewise determined that the mind ought not to be reduced to stupidity, but to retain pleasure; confined rather in the subject of it, than in the strength and vigour of it.

Civil Knowledge is conversant about a subject which of all others is most immersed in matter, and hardliest reduced to axiom. Nevertheless, as Cato the censor said, "that the Romans were like sheep, "for that a man might better drive a flock of them, "than one of them; for in a flock, if you could get "but some few to go right, the rest would follow:" so in that respect moral philosophy is more difficile than policy. Again, moral philosophy propoundeth to itself the framing of internal goodness; but civil knowledge requireth only an external goodness; for that as to society sufficeth. And therefore it cometh oft to pass that there be evil times in good governments: for so we find in the holy story, when the

kings were good, yet it is added, "Sed adhuc popu-"lus non direxerat cor suum ad Dominum Deum "patrum suorum." Again, states, as great engines, move slowly, and are not so soon put out of frame: for as in Egypt the seven good years sustained the seven bad, so governments, for a time well grounded, do bear out errours following: but the resolution of particular persons is more suddenly subverted. These respects do somewhat qualify the extreme difficulty of civil knowledge.

This knowledge hath three parts, according to the three summary actions of society; which are Conversation, Negotiation, and Government. For man seeketh in society comfort, use, and protection; and they be three wisdoms of divers natures, which do often sever; wisdom of the behaviour, wisdom of business, and wisdom of state.

The wisdom of Conversation ought not to be over much affected, but much less despised; for it hath not only an honour in itself, but an influence also into business and government. The poet saith,

"Nec vultu destrue verba tuo:"

a man may destroy the force of his words with his countenance: so may he of his deeds, saith Cicero, recommending to his brother affability and easy access; "Nil interest habere ostium apertum, vul-"tum clausum;" it is nothing won to admit men with an open door, and to receive them with a shut and reserved countenance. So, we see, Atticus, before the first interview between Cæsar and Cicero, the war depending, did seriously advise Cicero touching

the composing and ordering of his countenance and gesture. And if the government of the countenance be of such effect, much more is that of the speech, and other carriage appertaining to conversation; the true model whereof seemeth to me well expressed by Livy, though not meant for this purpose: "Ne aut "arrogans videar, aut obnoxius; quorum alterum "est alienæ libertatis obliti, alterum suæ:" the sum of behaviour is to retain a man's own dignity, without intruding upon the liberty of others. On the other side, if behaviour and outward carriage be intended too much, first it may pass into affectation, and then "quid deformius quam scenam in vitam transferre" (to act a man's life)? But although it proceed not to that extreme, yet it consumeth time, and employeth the mind too much. And therefore as we use to advise young students from company keeping, by saying, "Amici fures temporis:" so certainly the intending of the discretion of behaviour is a great thief of meditation. Again, such as are accomplished in that form of urbanity please themselves in it, and seldom aspire to higher virtue; whereas those that have defect in it do seek comeliness by reputation: for where reputation is, almost every thing becometh; but where that is not, it must be supplied by punctilios and compliments. Again, there is no greater impediment of action than an over-curious observance of decency, and the guide of decency, which is time and season. For as Solomon saith, "Qui "respicit ad ventos, non seminat; et qui respicit ad "nubes, non metet:" a man must make his opportu-

nity, as oft as find it. To conclude; behaviour seemeth to me as a garment of the mind, and to have the conditions of a garment. For it ought to be made in fashion; it ought not to be too curious; it ought to be shaped so as to set forth any good making of the mind, and hide any deformity; and above all, it ought not to be too strait, or restrained for exercise or motion. But this part of civil knowledge hath been elegantly handled, and therefore I cannot report it for deficient.

The wisdom touching Negotiation or Business hath not been hitherto collected into writing, to the great derogation of learning, and the professors of learning. For from this root springeth chiefly that note or opinion, which by us is expressed in adage to this effect, 'that there is no great concurrence 'between learning and wisdom.' For of the three wisdoms which we have set down to pertain to civil life, for wisdom of behaviour, it is by learned men for the most part despised, as an inferior to virtue, and an enemy to meditation; for wisdom of government, they acquit themselves well when they are called to it, but that happeneth to few; but for the wisdom of business, wherein man's life is most conversant, there be no books of it, except some few scattered advertisements, that have no proportion to the magnitude of this subject. For if books were written of this, as the other, I doubt not but learned men with mean experience, would far excel men of long experience without learning, and outshoot them in their own bow.

Neither needeth it at all to be doubted, that this knowledge should be so variable as it falleth not under precept; for it is much less infinite than science of government, which, we see, is laboured and in some part reduced. Of this wisdom, it seemeth some of the ancient Romans, in the sagest and wisest times, were professors; for Cicero reporteth, that it was then in use for senators that had name and opinion for general wise men, as Coruncanius, Curius, Lælius, and many others, to walk at certain hours in the place, and to give audience to those that would use their advice; and that the particular citizens would resort unto them, and consult with them of the marriage of a daughter, or of the employing of a son, or of a purchase or bargain, or of an accusation, and every other occasion incident to man's life. So as there is a wisdom of counsel and advice even in private causes, arising out of an universal insight into the affairs of the world; which is used indeed upon particular causes propounded, but is gathered by general observation of causes of like nature. For so we see in the book which Q. Cicero writeth to his brother. "De petitione consulatus," (being the only book of business, that I know, written by the ancients,) although it concerned a particular action then on foot, yet the substance thereof consisteth of many wise and politic axioms, which contain not a temporary, but a perpetual direction in the case of popular elections. But chiefly we may see in those aphorisms which have place among divine writings, composed by Solomon

the king, (of whom the Scriptures testify that his heart was as the sands of the sea, encompassing the world and all worldly matters,) we see, I say, not a few profound and excellent cautions, precepts, positions, extending to much variety of occasions; whereupon we will stay awhile, offering to consideration some number of examples.

"Sed et cunctis sermonibus qui dicuntur ne "accommodes aurem tuam, ne forte audias servum "tuum maledicentem tibi." Here is concluded the provident stay of inquiry of that which we would be loth to find: as it was judged great wisdom in Pompeius Magnus that he burned Sertorius's papers unperused.

"Vir sapiens, si cum stulto contenderit, sive "irascatur, sivi rideat, non inveniet requiem." Here is described the great disadvantage which a wise man hath in undertaking a lighter person than himself; which is such an engagement as, whether a man turn the matter to jest, or turn it to heat, or howsoever he change copy, he can no ways quit himself well of it.

"Qui delicatè a pueritia nutrit servum suum, "postea sentiet eum contumacem." Here is signified, that if a man begin too high a pitch in his favours, it doth commonly end in unkindness and unthankfulness.

"Vidisti virum velocem in opere suo? coram re-"gibus stabit, nec erit inter ignobiles." Here is observed, that of all virtues for rising to honour quickness of dispatch is the best; for superiors

many times love not to have those they employ too deep or too sufficient, but ready and diligent.

"Vidi cunctos viventes qui ambulant sub sole, "cum adolescente secundo qui consurgit pro eo." Here is expressed that which was noted by Sylla first, and after him by Tiberius: "Plures ado-"rant solem orientem quam occidentem vel me-"ridianum."

"Si spiritus potestatem habentis ascenderit su-"per te, locum tuum ne dimiseris; quia curatio "faciet cessare peccata maxima." Here caution is given, that upon displeasure, retiring is of all courses the unfittest; for a man leaveth things at worst, and depriveth himself of means to make them better.

"Erat civitas parva, et pauci in ea viri: venit "contra eam rex magnus, et vadavit eam, intrux-"itque munitiones per gyrum, et perfecta est "obsidio: inventusque est in ea vir pauper et "sapiens, et liberavit eam per sapientiam suam; "et nullus deinceps recordatus est hominis illius "pauperis." Here the corruption of states is set forth, that esteem not virtue or merit longer than they have use of it.

"Mollis responsio frangit iram." Here is noted that silence or rough answer exasperateth; but an answer present and temperate pacifieth.

"Iter pigrorum quasi sepes spinarum." Here is lively represented how laborious sloth proveth in the end; for when things are deferred till the last instant, and nothing prepared beforehand, every step

findeth a brier or an impediment, which catcheth or stoppeth.

"Melior est finis orationis quam principium." Here is taxed the vanity of formal speakers, that study more about prefaces and inducements, than upon the conclusions and issues of speech.

"Qui cognoscit in judicio faciem, non bene facit; "iste et pro bucella panis deseret veritatem." Here is noted, that a judge were better be a briber than a respecter of persons; for a corrupt judge offendeth not so highly as a facile.

"Vir pauper calumnians pauperes similis est "imbri vehementi, in quo paratur fames." Here is expressed the extremity of necessitous extortions, figured in the ancient fable of the full and hungry horse-leech.

"Fons turbatus pede, et vena corrupta, est jus-"tus cadens coram impio." Here is noted, that one judical and exemplar iniquity in the face of the world, doth trouble the fountains of justice more than many particular injuries passed over by connivance.

"Qui subtrahit aliquid a patre et a matre, et "dicit hoc non esse peccatum, particeps est homicidii." Here is noted, that whereas men in wronging their best friends use to extenuate their fault, as if they might presume or be bold upon them, it doth contrariwise indeed aggravate their fault, and turneth it from injury to impiety.

"Noli esse amicus homini iracundo, nec ambulato "cum homine furioso." Here caution is given, that

in the election of our friends we do principally avoid those which are impatient, as those that will espouse us to many factions and quarrels.

"Qui conturbat domum suam, possidebit ven-"tum." Here is noted, that in domestical separations and breaches men do promise to themselves quieting of their mind and contentment; but still they are deceived of their expectation, and it turneth to wind.

"Filius sapiens lætificat patrem: filius vero "stultus mœstitia est matri suæ." Here is distinguished, that fathers have most comfort of the good proof of their sons; but mothers have most discomfort of their ill proof, because women have little discerning of virtue, but of fortune.

"Qui celat delictum, quærit amicitiam; sed qui "altero sermone repetit, separat fœderatos." Here caution is given, that reconcilement is better managed by an amnesty, and passing over that which is past, than by apologies and excusations.

"In omni opere bono erit abundantia; ubi au-"tem verba sunt plurima, ibi frequenter egestas." Here is noted, that words and discourse abound most where there is idleness and want.

"Primus in sua causa justus; sed venit altera "pars, et inquirit in eum." Here is observed, that in all causes the first tale possesseth much; in such sort, that the prejudice thereby wrought will be hardly removed, except some abuse or falsity in the information be detected.

"Verba bilinguis quasi simplicia, et ipsa perve-

"niunt ad interiora ventris." Here is distinguished, that flattery and insinuation, which seemeth set and artificial, sinketh not far; but that entereth deep which hath shew of nature, liberty, and simplicity.

"Qui erudit derisorem, ipse sibi injuriam facit; "et qui arguit impium, sibi maculam generat." Here caution is given how we tender reprehension [illegible] arrogant and scornful natures, whose manner [illegible] to esteem it for contumely, and accordingly to [illegible]urn it.

"Da sapienti occasionem, et addetur ei sapien-"tia." Here is distinguished the wisdom brought into habit, and that which is but verbal, and swim-[illegible]ing only in conceit; for the one upon occasion presented is quickened and redoubled, the other is amazed and confused.

"Quomodo in aquis resplendent vultus prospi-"cientium, sic corda hominum manifesta sunt pru-"dentibus." Here the mind of a wise man is compared to a glass, wherein the images of all diversity of natures and customs are represented; from which representation proceedeth that application,

"Qui sapit, innumeris moribus aptus erit."

Thus have I staid somewhat longer upon these sentences politic of Solomon than is agreeable to the proportion of an example; led with a desire to give authority to this part of knowledge, which I noted as deficient, by so excellent a precedent; and have also attended them with brief observations,

such as to my understanding offer no violence to the sense, though I know they may be applied to a more divine use: but it is allowed, even in divinity, that some interpretations, yea and some writings, have more of the eagle than others; but taking them as instructions for life, they might have received large discourse, if I would have broken them and illustrated them by deducements and examples.

Neither was this in use only with the Hebrews, but it is generally to be found in the wisdom of the more ancient times; that as men found out any observation that they thought was good for life, they would gather it, and express it in parable, or aphorism, or fable. But for fables, they were vicegerents and supplies where examples failed: now that the times abound with history, the aim is better when the mark is alive. And therefore the form of writing which of all others is fittest for this variable argument of negotiation and occasion is that which Machiavel chose wisely and aptly for government; namely, discourse upon histories or examples: for knowledge drawn freshly, and in our view, out of particulars, knoweth the way best to particulars again; and it hath much greater life for practice when the discourse attendeth upon the example, than when the example attendeth upon the discourse. For this is no point of order, as it seemeth at first, but of substance; for when the example is the ground, being set down in an history at large, it is set down with all circumstances,

which may sometimes control the discourse thereupon made, and sometimes supply it as a very pattern for action; whereas the examples alleged for the discourse's sake are cited succinctly, and without particularity, and carry a servile aspect toward the discourse which they are brought in to make good.

But this difference is not amiss to be remembered, that as history of times is the best ground for discourse of government, such as Machiavel handleth, so history of lives is the most proper for discourse of business, because it is most conversant in private actions. Nay, there is a ground of discourse for this purpose fitter than them both, which is discourse upon letters, such as are wise and weighty, as many are of Cicero ad Atticum, and others. For letters have a great and more particular representation of business than either chronicles or lives. Thus have we spoken both of the matter and form of this part of civil knowledge, touching Negotiation, which we note to be deficient.

But yet there is another part of this part, which differeth as much from that whereof we have spoken as "sapere," and "sibi sapere," the one moving as it were to the circumference, the other to the centre For there is a wisdom of counsel, and again there is a wisdom of pressing a man's own fortune; and they do sometimes meet, and often sever; for many are wise in their own ways that are weak for government or counsel; like ants, which are wise

creatures for themselves, but very hurtful for the garden. This wisdom the Romans did take much knowledge of: "Nam pol sapiens," saith the comical poet, "fingit fortunam sibi;" and it grew to an adage, "Faber quisque fortunæ propriæ;" and Livy attributeth it to Cato the first, "in hoc viro "tanta vis animi et ingenii inerat, ut quocunque "loco natus esset, sibi ipse fortunam facturus vide-"retur."

This conceit or position, if it be too much declared and professed, hath been thought a thing impolitic and unlucky, as was observed in Timotheus the Athenian; who having done many great services to the estate in his government, and giving an account thereof to the people, as the manner was, did conclude every particular with this clause, "and "in this fortune had no part." And it came so to pass that he never prospered in any thing he took in hand afterwards: for this is too high and too arrogant, savouring of that which Ezekiel saith of Pharaoh, "Dicis, Fluvius est meus, et ego feci "memet ipsum; or of that which another prophet speaketh, that men offer sacrifices to their nets and snares; and that which the poet expresseth,

"Dextra mihi Deus, et telum quod missile libro,
"Nunc adsint!"

for these confidences were ever unhallowed, and unblessed: and therefore those that were great politicians indeed ever ascribed their successes to their felicity, and not to their skill or virtue. For

so Sylla surnamed himself "Felix," not "Magnus:" so Cæsar said to the master of the ship, "Cæsarem "portas et fortunam ejus."

But yet nevertheless these positions, "Faber "quisque fortunæ suæ: Sapiens dominabitur astris: "Invia virtuti nulla est via," and the like, being taken and used as spurs to industry, and not as stirrups to insolency, rather for resolution than for presumption or outward declaration, have been ever thought sound and good; and are, no question, imprinted in the greatest minds, who are so sensible of this opinion, as they can scarce contain it within: as we see in Augustus Cæsar, (who was rather diverse from his uncle, than inferior in virtue,) how when he died, he desired his friends about him to give him a Plaudite, as if he were conscious to himself that he had played his part well upon the stage. This part of knowledge we do report also as deficient: not but that it is practised too much, but it hath not been reduced to writing. And therefore lest it should seem to any that it is not comprehensible by axiom, it is requisite, as we did in the former, that we set down some heads or passages of it.

Wherein it may appear at the first a new and unwonted argument to teach men how to raise and make their fortune; a doctrine wherein every man perchance will be ready to yield himself a disciple, till he seeth difficulty: for fortune layeth as heavy impositions as virtue; and it is as hard and severe a thing to be a true politician, as to be truly moral.

But the handling hereof concerneth learning greatly, both in honour and in substance: in honour, because pragmatical men may not go away with an opinion that learning is like a lark, that can mount, and sing, and please herself, and nothing else; but may know that she holdeth as well of the hawk, that can soar aloft, and can also descend and strike upon the prey: in substance, because it is the perfect law of inquiry of truth, "that nothing be in the globe of "matter, which should not be likewise in the globe "of chrystal, or form;" that is that there be not any thing in being and action, which should not be drawn and collected into contemplation and doctrine. Neither doth learning admire or esteem of this architecture of fortune, otherwise than as of an inferior work: for no man's fortune can be an end worthy of his being; and many times the worthiest men do abandon their fortune willingly for better respects: but nevertheless fortune, as an organ of virtue and merit, deserveth the consideration.

First therefore, the precept which I conceive to be most summary towards the prevailing in fortune, is to obtain that window which Momus did require: who seeing in the frame of man's heart such angles and recesses, found fault that there was not a window to look into them; that is, to procure good informations of particulars touching persons, their natures, their desires and ends, their customs and fashions, their helps and advantages, and whereby they chiefly stand: so again their weaknesses and

disadvantages, and where they lie most open and obnoxious; their friends, factions, and dependencies; and again their opposites, enviers, competitors, their moods and times, "Sola viri molles aditus et "tempora noras;" their principles, rules, and observations, and the like: and this not only of persons, but of actions; what are on foot from time to time, and how they are conducted, favoured, opposed, and how they import, and the like. For the knowledge of present actions is not only material in itself, but without it also the knowledge of persons is very erroneous: for men change with the actions; and whilst they are in pursuit they are one, and when they return to their nature they are another. These informations of particulars, touching persons and actions, are as the minor propositions in every active syllogism; for no excellency of observations, which are as the major propositions, can suffice to ground a conclusion, if there be errour and mistaking in the minors.

That this knowledge is possible, Solomon is our surety; who saith, "Consilium in corde viri tanquam "aqua profunda; sed vir prudens exhauriet illud." And although the knowledge itself falleth not under precept, because it is of individuals, yet the instructions for the obtaining of it may.

We will begin therefore with this precept, according to the ancient opinion, that the sinews of wisdom are slowness of belief and distrust; that more trust be given to countenances and deeds than to words; and in words, rather to sudden passages

and surprised words than to set and purposed words. Neither let that be feared which is said, "fronti "nulla fides:" which is meant of a general outward behaviour, and not of the private and subtile motions and labours of the countenance and gesture; which as Q. Cicero elegantly saith, is "animi janua." None more close than Tiberius, and yet Tacitus saith of Gallus, "Etenim vultu offensionem conjectaverat." So again, noting the differing character and manner of his commending Germanicus and Drusus in the senate, he saith, touching his fashion wherein he carried his speech of Germanicus, thus; "Magis in "speciem adornatis verbis, quam ut penitus sentire "videretur:" but of Drusus thus; "Paucioribus, "sed intentior, et fida oratione:" and in another place, speaking of his character of speech, when he did any thing that was gracious and popular, he saith, that in other things he was "velut eluctantium "verborum;" but then again, "solutius vero loque-"batur quando subveniret." So that there is no such artificer of dissimulation, nor no such commanded countenance, "vultus jussus," that can sever from a feigned tale some of these fashions, either a more slight and careless fashion, or more set and formal, or more tedious and wandering, or coming from a man more drily and hardly.

Neither are deeds such assured pledges, as that they may be trusted without a judicious consideration of their magnitude and nature: "Fraus sibi "in parvis fidem præstruit, ut majore emolumento "fallat:" and the Italian thinketh himself upon the

point to be bought and sold, when he is better used than he was wont to be, without manifest cause. For small favours, they do but lull men asleep, both as to caution and as to industry; and are, as Demosthenes calleth them, "Alimenta socordiæ. So again we see how false the nature of some deeds are, in that particular which Mutianus practised upon Antonius Primus, upon that hollow and unfaithful reconcilement which was made between them; wheupon Mutianus advanced many of the friends of Antonius: "simul amicis ejus præfecturas et tribu-"natus largitur:" wherein, under pretence to strengthen him, he did desolate him, and won from him his dependences.

As for words, though they be like waters to physicians, full of flattery and uncertainty, yet they are not to be despised, especially with the advantage of passion and affection. For so we see Tiberius, upon a stinging and incensing speech of Agrippina, came a step forth of his dissimulation, when he said, "You are hurt, because you do not reign;" of which Tacitus saith, "Audita hæc raram occulti "pectoris vocem elicuere; correptamque Græco versu "admonuit, ideo lædi, quia non regnaret." And therefore the poet doth elegantly call passions, tortures, that urge men to confess their secrets:

"Vino tortus et ira."

And experience sheweth, there are few men so true to themselves and so settled, but that, sometimes upon heat, sometimes upon bravery, sometimes upon kindness, sometimes upon trouble of mind and weak-

ness, they open themselves; especially if they be put to it with a counter-dissimulation, according to the proverb of Spain, "Di mentira, y sacaras verdad" (Tell a lie and find the truth).

As for the knowing of men, which is at second hand from reports; men's weaknesses and faults are best known from their enemies, their virtues and abilities from their friends, their customs and times from their servants, their conceits and opinions from their familiar friends, with whom they discourse most. General fame is light, and the opinions conceived by superiors or equals are deceitful; for to such, men are more masked: "Verior fama e do-"mesticis emanat."

But the soundest disclosing and expounding of men is by their natures and ends, wherein the weakest sort of men are best interpreted by their natures, and the wisest by their ends. For it was both pleasantly and wisely said, though I think very untruly, by a nuncio of the pope, returning from a certain nation where he served as lieger; whose opinion being asked touching the appointment of one to go in his place, he wished that in any case they did not send one that was too wise; because no very wise man would ever imagine what they in that country were like to do. And certainly it is an errour frequent for men to shoot over, and to suppose deeper ends, and more compass-reaches than are: the Italian proverb being elegant, and for the most part true:

"Di danari, di senno, e di fede,
"C'e ne manco che non credi"

(There is commonly less money, less wisdom and less good faith than men do account upon).

But princes, upon a far other reason, are best interpreted by their natures, and private persons by their ends; for princes being at the top of human desires, they have for the most part no particular ends whereto they aspire, by distance from which a man might take measure and scale of the rest of their actions and desires; which is one of the causes that maketh their hearts more inscrutable. Neither is it sufficient to inform ourselves in men's ends and natures, of the variety of them only, but also of the predominancy, what humour reigneth most, and what end is principally sought. For so we see, when Tigellinus saw himself outstripped by Petronius Turpilianus in Nero's humours of pleasures, "metus ejus rimatur" (he wrought upon Nero's fears), whereby he brake the other's neck.

But to all this part of inquiry the most compendious way resteth in three things: the first, to have general acquaintance and inwardness with those which have general acquaintance and look most into the world; and especially according to the diversity of business, and the diversity of persons, to have privacy and conversation with some one friend, at least, which is perfect and well intelligenced in every several kind. The second is, to keep a good mediocrity in liberty of speech and secrecy; in most things liberty: secrecy where it importeth; for liberty of speech inviteth and provoketh liberty to be used again, and so bringeth much to a man's

knowledge; and secrecy, on the other side, induceth trust and inwardness. The last is, the reducing of a man's self to this watchful and serene habit, as to make account and purpose, in every conference and action, as well to observe as to act. For as Epictetus would have a philosopher in every particular action to say to himself, "Et hoc volo, et "etiam institutum servare;" so a politic man in every thing should say to himself, "Et hoc volo, ac etiam "aliquid addiscere." I have stayed the longer upon this precept of obtaining good information, because it is a main part by itself, which answereth to all the rest. But, above all things, caution must be taken that men have a good stay and hold of themselves, and that this much knowledge do not draw on much meddling; for nothing is more unfortunate than light and rash intermeddling in many matters. So that this variety of knowledge tendeth in conclusion but only to this, to make a better and freer choice of those actions which may concern us, and to conduct them with the less errour and the more dexterity.

The second precept concerning this knowledge is, for men to take good information touching their own person, and well to understand themselves: knowing that, as St. James saith, though men look oft in a glass, yet they do suddenly forget themselves; wherein as the divine glass is the word of God, so the politic glass is the state of the world, or times wherein we live, in the which we are to behold ourselves.

For men ought to take an impartial view of their own abilities and virtues; and again of their wants and impediments; accounting these with the most, and those other with the least; and from this view and examination to frame the considerations following.

First, to consider how the constitution of their nature sorteth with the general state of the times; which if they find agreeable and fit, then in all things to give themselves more scope and liberty; but if differing and dissonant, then in the whole course of their life to be more close, retired, and reserved: as we see in Tiberius, who was never seen at a play, and came not into the senate in twelve of his last years; whereas Augustus Cæsar lived ever in men's eyes, which Tacitus observeth, "Alia "Tiberio morum via."

Secondly, to consider how their nature sorteth with professions and courses of life, and accordingly to make election, if they be free; and, if engaged, to make the departure at the first opportunity: as we see was done by duke Valentine, that was designed by his father to a sacerdotal profession, but quitted it soon after in regard of his parts and inclination; being such, nevertheless, as a man cannot tell well whether they were worse for a prince or for a priest.

Thirdly, to consider how they sort with those whom they are like to have competitors and concurrents; and to take that course wherein there is most solitude, and themselves like to be most eminent:

as Julius Cæsar did, who at first was an orator or pleader; but when he saw the excellency of Cicero, Hortensius, Catulus, and others, for eloquence, and saw there was no man of reputation for the wars but Pompeius, upon whom the state was forced to rely, he forsook his course begun toward a civil and popular greatness, and transferred his designs to a martial greatness.

Fourthly, in the choice of their friends and dependences, to proceed according to the composition of their own nature: as we may see in Cæsar; all whose friends and followers were men active and effectual, but not solemn, or of reputation.

Fifthly, to take special heed how they guide themselves by examples, in thinking they can do as they see others do; whereas perhaps their natures and carriages are far differing. In which error it seemeth Pompey was, of whom Cicero saith, that he was wont often to say, "Sylla potuit, ego non "potero?" Wherein he was much abused, the natures and proceedings of himself and his example being the unlikest in the world; the one being fierce, violent, and pressing the fact; the other solemn, and full of majesty and circumstance, and therefore the less effectual.

But this precept touching the politic knowledge of ourselves, hath many other branches, whereupon we cannot insist.

Next to the well understanding and discerning of a man's self, there followeth the well opening and revealing a man's self; wherein we see nothing more

usual than for the more able man to make the less shew. For there is a great advantage in the well setting forth of a man's virtues, fortunes, merits; and again, in the artificial covering of a man's weaknesses, defects, disgraces; staying upon the one, sliding from the other; cherishing the one by circumstances, gracing the other by exposition, and the like: wherein we see what Tacitus saith of Mutianus, who was the greatest politician of his time, "Omnium quæ dixerat feceratque arte quâdam "ostentator:" which requireth indeed some art, lest it turn tedious and arrogant; but yet so, as ostentation, though it be to the first degree of vanity, seemeth to me rather a vice in manners than in policy: for as it is said, "Audacter calumniare, "semper aliquid hæret:" so, except it be in a ridiculous degree of deformity, "Audacter te vendita, "semper aliquid hæret." For it will stick with the more ignorant and inferior sort of men, though men of wisdom and rank do smile at it, and despise it; and yet the authority won with many doth countervail the disdain of a few. But if it be carried with decency and government, as with a natural, pleasant, and ingenious fashion; or at times when it is mixed with some peril and unsafety, as in military persons; or at times when others are most envied; or with easy and careless passage to it and from it, without dwelling too long, or being too serious; or with an equal freedom of taxing a man's self, as well as gracing himself; or by occasion of repelling or putting down others' injury or insolence; it doth

greatly add to reputation: and surely not a few solid natures, that want this ventosity, and cannot sail in the height of the winds, are not without some prejudice and disadvantage by their moderation.

But for these flourishes and enhancements of virtue, as they are not perchance unnecessary, so it is at least necessary that virtue be not disvalued and imbased under the just price; which is done in three manners: by offering and obtruding a man's self; wherein men think he is rewarded, when he is accepted; by doing too much, which will not give that which is well done leave to settle, and in the end induceth satiety; and by finding too soon the fruit of a man's virtue, in commendation, applause, honour, favour; wherein if a man be pleased with a little, let him hear what is truly said; "Cave ne "insuetus rebus majoribus videaris, si hæc te res "parva sicuti magna delectat."

But the covering of defects is of no less importance than the valuing of good parts; which may be done likewise in three manners, by caution, by colour, and by confidence. Caution is when men do ingeniously and discreetly avoid to be put into those things for which they are not proper: whereas, contrariwise, bold and unquiet spirits will thrust themselves into matters without difference, and so publish and proclaim all their wants. Colour is, when men make a way for themselves, to have a construction made of their faults or wants, as proceeding from a better cause, or intended for some other purpose: for of the one it is well said, "Sæpe

"latet vitium proximitate boni," and therefore whatsoever want a man hath, he must see that he pretend the virtue that shadoweth it; as if he be dull, he must affect gravity; if a coward, mildness; and so the rest: for the second, a man must frame some probable cause why he should not do his best, and why he should dissemble his abilities; and for that purpose must use to dissemble those abilities which are notorious in him, to give colour that his true wants are but industries and dissimulations. For confidence, it is the last but surest remedy; namely, to depress and seem to despise whatsoever a man cannot attain; observing the good principle of the merchants, who endeavour to raise the price of their own commodities, and to beat down the price of others. But there is a confidence that passeth this other; which is, to face out a man's own defects, in seeming to conceive that he is best in those things wherein he is failing; and, to help that again, to seem on the other side that he hath least opinion of himself in those things wherein he is best: like as we shall see it commonly in poets, that if they shew their verses, and you except to any, they will say, that that line cost them more labour than any of the rest; and presently will seem to disable and suspect rather some other line, which they know well enough to be the best in the number. But above all, in this righting and helping of a man's self in his own carriage, he must take heed he shew not himself dismantled, and exposed to scorn and injury, by too much dulceness, goodness, and facility of nature;

but shew some sparkles of liberty, spirit, and edge: which kind of fortified carriage, with a ready rescuing of a man's self from scorns, is sometimes of necessity imposed upon men by somewhat in their person or fortune; but it ever succeedeth with good felicity.

Another precept of this knowledge is, by all possible endeavour to frame the mind to be pliant and obedient to occasion; for nothing hindereth men's fortunes so much as this; "Idem manebat, "neque idem decebat," men are where they were, when occasions turn: and therefore to Cato, whom Livy maketh such an architect of fortune, he addeth, that he had "versatile ingenium." And thereof it cometh that these grave solemn wits, which must be like themselves, and cannot make departures, have more dignity than felicity. But in some it is nature to be somewhat viscous and inwrapped, and not easy to turn; in some it is a conceit, that is almost a nature, which is, that men can hardly make themselves believe that they ought to change their course, when they have found good by it in former experience. For Machiavel noted wisely, how Fabius Maximus would have been temporizing still, according to his old bias, when the nature of the war was altered and required hot pursuit. In some other it is want of point and penetration in their judgment, that they do not discern when things have a period, but come in too late after the occasion; as Demosthenes compareth the people of Athens to country fellows, when they play in a fence school, that if they have a blow, then

they remove their weapon to that ward, and not before. In some other it is a lothness to leese labours passed, and a conceit that they can bring about occasions to their ply; and yet in the end, when they see no other remedy, then they come to it with disadvantage; as Tarquinius, that gave for the third part of Sibylla's books the treble price, when he might at first have had all three for the simple. But from whatsoever root or cause this restiveness of mind proceedeth, it is a thing most prejudicial; and nothing is more politic than to make the wheels of our mind concentric and voluble with the wheels of fortune.

Another precept of this knowledge, which hath some affinity with that we last spake of, but with difference, is that which is well expressed, "Fatis "accede Deisque," that men do not only turn with the occasions, but also run with the occasions, and not strain their credit or strength to over hard or extreme points; but choose in their actions that which is most passable: for this will preserve men from foil, not occupy them too much about one matter, win opinion of moderation, please the most, and make a shew of a perpetual felicity in all they undertake; which cannot but mightily increase reputation.

Another part of this knowledge seemeth to have some repugnancy with the former two, but not as I understand it; and it is that which Demosthenes uttereth in high terms; "Et quemadmodum recep-"tum est, ut exercitum ducat imperator, sic et a

"cordatis viris res ipsæ ducendæ; ut quæ ipsis "videntur, ea gerantur, et non ipsi eventus tantum "persequi cogantur." For, if we observe, we shall find two differing kinds of sufficiency in managing of business: some can make use of occasions aptly and dexterously, but plot little; some can urge and pursue their own plots well, but cannot accommodate nor take in; either of which is very imperfect without the other.

Another part of this knowledge is the observing a good mediocrity in the declaring, or not declaring a man's self: for although depth of secrecy, and making way, "qualis est via navis in mari," (which the French calleth sourdes menées, when men set things in work without opening themselves at all,) be sometimes both prosperous and admirable; yet many times "Dissimulatio errores parit, qui dissimulato-"rem ipsum illaqueant;" and therefore, we see the greatest politicians have in a natural and free manner professed their desires, rather than been reserved and disguised in them:" for so we see that Lucius Sylla made a kind of profession, "that he wished "all men happy or unhappy, as they stood his "friends or enemies." So Cæsar, when he went first into Gaul, made no scruple to profess, "that he "had rather be first in a village, than second at "Rome." So again, as soon as he had begun the war, we see what Cicero saith of him, "Alter (meaning of Cæsar) "non recusat, sed quodammodo "postulat, ut, ut est, sic appelletur tyrannus." So we may see in a letter of Cicero to Atticus, that

Augustus Cæsar, in his very entrance into affairs, when he was a darling of the senate, yet in his harangues to the people would swear, "Ita parentis "honores consequi liceat," which was no less than the tyranny; save that, to help it, he would stretch forth his hand towards a statue of Cæsar's that was erected in the place: whereat many men laughed, and wondered, and said, Is it possible? or, Did you ever hear the like to this? and yet thought he meant no hurt; he did it so handsomely and ingenuously. And all these were prosperous: whereas Pompey, who tended to the same end, but in a more dark and dissembling manner, as Tacitus saith of him, "Occultior, non melior," wherein Sallust concurreth, "ore probo, animo in-"verecundo," made it his design, by infinite secret engines, to cast the state into an absolute anarchy and confusion, that the state might cast itself into his arms for necessity and protection, and so the sovereign power be put upon him, and he never seen in it: and when he had brought it, as he thought, to that point, when he was chosen consul alone, as never any was, yet he could make no great matter of it, because men understood him not; but was fain, in the end, to go the beaten track of getting arms into his hands, by colour of the doubt of Cæsar's designs: so tedious, casual, and unfortunate are these deep dissimulations: whereof, it seemeth, Tacitus made his judgment, that they were a cunning of an inferior form in regard of true policy; attributing the one to Au-

gustus, the other to Tiberius; where, speaking of Livia, he saith, "Et cum artibus mariti simulatione "filii bene composita:" for surely the continual habit of dissimulation is but a weak and sluggish cunning, and not greatly politic.

Another precept of this architecture of fortune is, to accustom our minds to judge of the proportion or value of things, as they conduce and are material to our particular ends; and that to do substantially, and not superficially. For we shall find the logical part, as I may term it, of some men's minds good, but the mathematical part erroneous; that is, they can well judge of consequences, but not of proportions and comparisons, preferring things of shew and sense before things of substance and effect. So some fall in love with access to princes, others with popular fame and applause, supposing they are things of great purchase: when in many cases they are but matters of envy, peril and impediment.

So some measure things according to the labour and difficulty, or assiduity, which are spent about them; and think, if they be ever moving, that they must needs advance and proceed: as Cæsar saith in a despising manner of Cato the second, when he describeth how laborious and indefatigable he was to no great purpose; "Hæc omnia magno studio "agebat." So in most things men are ready to abuse themselves in thinking the greatest means to be best, when it should be the fittest.

As for the true marshalling of men's pursuits towards their fortune, as they are more or less

material, I hold them to stand thus: first the amendment of their own minds; for the remove of the impediments of the mind will sooner clear the passages of fortune, than the obtaining fortune will remove the impediments of the mind. In the second place I set down wealth and means; which I know most men would have placed first, because of the general use which it beareth towards all variety of occasions: but that opinion I may condemn with like reason as Machiavel doth that other, that moneys were the sinews of the wars; whereas, saith he, the true sinews of the wars are the sinews of men's arms, that is, a valiant, populous, and military nation: and he voucheth aptly the authority of Solon, who, when Crœsus shewed him his treasury of gold, said to him, that if another came that had better iron, he would be master of his gold. In like manner it may be truly affirmed, that it is not moneys that are the sinews of fortune, but it is the sinews and steel of men's minds, wit, courage, audacity, resolution, temper, industry, and the like. In the third place I set down reputation, because of the peremptory tides and currents it hath; which, if they be not taken in their due time, are seldom recovered, it being extreme hard to play an after-game of reputation. And lastly, I place honour, which is more easily won by any of the other three, much more by all, than any of them can be purchased by honour. To conclude this precept, as there is order and priority in matter, so is there in time, the preposterous placing whereof is one of the

commonest errours; while men fly to their ends when they should intend their beginnings, and do not take things in order of time as they come on, but marshal them according to greatness, and not according to instance; not observing the good precept, "Quod nunc instat agamus."

Another precept of this knowledge is, not to embrace any matters which do occupy too great a quantity of time, but to have that sounding in a man's ears, "Sed fugit interea, fugit irreparabile "tempus:" and that is the cause why those which take their course of rising by professions of burden, as lawyers, orators, painful divines, and the like, are not commonly so politic for their own fortunes, otherwise than in their ordinary way, because they want time to learn particulars, to wait occasions, and to devise plots.

Another precept of this knowledge is, to imitate nature, which doth nothing in vain; which surely a man may do if he do well interlace his business, and bend not his mind too much upon that which he principally intendeth. For a man ought in every particular action so to carry the motions of his mind, and so to have one thing under another, as if he cannot have that he seeketh in the best degree, yet to have it in a second, or so in a third; and if he can have no part of that which he purposed, yet to turn the use of it to somewhat else; and if he cannot make any thing of it for the present, yet to make it as a seed of somewhat in time to come; and if he can contrive no effect or substance

from it, yet to win some good opinion by it, or the like. So that he should exact account of himself of every action, to reap somewhat, and not to stand amazed and confused if he fail of that he chiefly meant: for nothing is more impolitic than to mind actions wholly one by one; for he that doth so leeseth infinite occasions which intervene, and are many times more proper and propitious for somewhat that he shall need afterwards, than for that which he urgeth for the present; and therefore men must be perfect in that rule, "Hæc oportet facere, et illa "non omittere."

Another precept of this knowledge is, not to engage a man's self peremptorily in any thing, though it seem not liable to accident; but ever to have a window to fly out at, or a way to retire: following the wisdom in the ancient fable of the two frogs, which consulted when their plash was dry whither they should go; and the one moved to go down into a pit, because it was not likely the water would dry there; but the other answered, "True, but if it do, how shall we get out "again?"

Another precept of this knowledge is that ancient precept of Bias, construed not to any point of perfidiousness, but only to caution and moderation. "Et ama tanquam inimicus futurus, et odi tanquam "amaturus;" for it utterly betrayeth all utility for men to embark themselves too far in unfortunate friendships, troublesome spleens, and childish and humorous envies or emulations.

But I continue this beyond the measure of an example; led, because I would not have such knowledges, which I note as deficient, to be thought things imaginative or in the air, or an observation or two much made of, but things of bulk and mass, whereof an end is hardlier made than a beginning. It must be likewise conceived, that in these points which I mention and set down, they are far from complete tractates of them, but only as small pieces for patterns. And lastly, no man, I suppose, will think that I mean fortunes are not obtained without all this ado; for I know they come tumbling into some men's laps; and a number obtain good fortunes by diligence in a plain way, little intermeddling, and keeping themselves from gross errors.

But as Cicero, when he setteth down an idea of a perfect orator, doth not mean that every pleader should be such; and so likewise, when a prince or a courtier hath been described by such as have handled those subjects, the mould hath used to be made according to the perfection of the art, and not according to common practice: so I understand it, that it ought to be done in the description of a politic man, I mean politic for his own fortune.

But it must be remembered all this while, that the precepts which we have set down are of that kind which may be counted and called "bonæ "artes." As for evil arts, if a man would set down for himself that principle of Machiavel, "that a "man seek not to attain virtue itself, but the ap-

"pearance only thereof; because the credit of virtue "is a help, but the use of it is cumber:" or that other of his principles, "that he presuppose, that men are "not fitly to be wrought otherwise but by fear; and "therefore that he seek to have every man obnoxious, "low, and in strait," which the Italians call "se-"minar spine," to sow thorns; or that other principle, contained in the verse which Cicero citeth, "Cadant amici, dummodo inimici intercidant," as the Triumvirs, which sold, every one to other, the lives of their friends for the deaths of their enemies: or that other protestation of L. Catalina, to set on fire and trouble states, to the end to fish in droumy waters, and to unwrap their fortunes, "Ego si quid "in fortunis meis excitatum sit incendium, id non "aqua, sed ruina restinguam:" or that other principle of Lysander "that children are to be deceived with "comfits, and men with oaths:" and the like evil and corrupt positions, whereof, as in all things, there are more in number than of the good: certainly, with these dispensations from the laws of charity and integrity, the pressing of a man's fortune may be more hasty and compendious. But it is in life as it is in ways, the shortest way is commonly the foulest, and surely the fairer way is not much about.

But men, if they be in their own power, and do bear and sustain themselves, and be not carried away with a whirlwind or tempest of ambition, ought, in the pursuit of their own fortune, to set before their eyes not only that general map of the

world, that "all things are vanity and vexation of "spirit," but many other more particular cards and directions: chiefly that,—that being without well-being, is a curse,—and the greater being the greater curse; and that all virtue is most rewarded, and all wickedness most punished in itself: according as the poet saith excellently:

> "Quæ vobis, quæ digna, viri, pro laudibus istis
> "Præmia posse rear solvi? pulcherrima primum
> "Dii moresque dabunt vestri."

And so of the contrary. And, secondly, they ought to look up to the eternal providence and divine judgment, which often subverteth the wisdom of evil plots and imaginations, according to that Scripture, "He hath conceived mischief, and shall bring forth "a vain thing." And although men should refrain themselves from injury and evil arts, yet this incessant and sabbathless pursuit of a man's fortune leaveth not the tribute which we owe to God of our time; who, we see, demandeth a tenth of our substance, and a seventh, which is more strict of our time: and it is to small purpose to have an erected face towards heaven, and a perpetual grovelling spirit upon earth, eating dust, as doth the serpent, "Atque affigit humo divinæ particulam auræ." And if any man flatter himself that he will employ his fortune well, though he should obtain it ill, as was said concerning Augustus Cæsar, and after of Septimius Severus, "that either they should never have "been born, or else they should never have died,"

they did so much mischief in the pursuit and ascent of their greatness, and so much good when they were established; yet these compensations and satisfactions are good to be used, but never good to be purposed. And lastly, it is not amiss for men, in their race toward their fortune, to cool themselves a little with that conceit which is elegantly expressed by the emperor Charles the fifth, in his instructions to the king his son, "that fortune hath "somewhat of the nature of a woman, that if she be "two much wooed, she is the farther off." But this last is but a remedy for those whose tastes are corrupted: let men rather build upon that foundation which is as a corner-stone of divinity and philosophy, wherein they join close, namely, that same "Primum "quærite." For Divinity saith, "Primum quærite "regnum Dei, et ista omnia adjicientur vobis:" and philosophy saith, "Primum quærite bona animi, "cætera aut aderunt, aut non oberunt." And although the human foundation hath somewhat of the sands, as we see in M. Brutus, when he brake forth into that speech,

"Te colui, virtus, ut rem; at tu nomen inane es;"

yet the divine foundation is upon the rock. But this may serve for a taste of that knowledge which I noted as deficient.

Concerning Government, it is a part of knowledge secret and retired, in both these respects in which things are deemed secret; for some things are secret because they are hard to know, and some

because they are not fit to utter. We see all governments are obscure and invisible:

"Totamque infusa per artus
"Mens agitat molem, et magno se corpore miscet."

Such is the description of governments. We see the government of God over the world is hidden, insomuch as it seemeth to participate of much irregularity and confusion: the government of the soul in moving the body is inward and profound, and the passages thereof hardly to be reduced to demonstration. Again, the wisdom of antiquity, (the shadows whereof are in the poets,) in the description of torments and pains, next unto the crime of rebellion, which was the giants' offence, doth detest the offence of futility, as in Sisyphus and Tantalus. But this was meant of particulars: nevertheless even unto the general rules and discourses of policy and government there is due a reverent and reserved handling.

But contrariwise, in the governors toward the governed, all things ought, as far as the frailty of man permitteth, to be manifest and revealed. For so it is expressed in the Scriptures touching the government of God, that this globe, which seemeth to us a dark and shady body, is in the view of God as crystal: "Et in conspectu sedis tanquam mare "vitreum simile crystallo." So unto princes and states, especially towards wise senates and councils, the natures and dispositions of the people, their conditions and necessities, their factions and combinations, their animosities and discontents, ought to

be, in regard of the variety of their intelligences, the wisdom of their observations, and the height of their station where they keep sentinel, in great part clear and transparent. Wherefore, considering that I write to a king that is a master of this science, and is so well assisted, I think it decent to pass over this part in silence, as willing to obtain the certificate which one of the ancient philosophers aspired unto; who being silent, when others contended to make demonstration of their abilities by speech, desired it might be certified for his part, "that there "was one that knew how to hold his peace."

Notwithstanding, for the more public part of government, which is Laws, I think good to note only one deficiency; which is, that all those which have written of laws, have written either as philosophers or as lawyers, and none as statesmen. As for the philosophers, they make imaginary laws for imaginary commonwealths; and their discourses are as the stars, which give little light, because they are so high. For the lawyers, they write according to the states where they live, what is received law, and not what ought to be law: for the wisdom of a lawmaker is one, and of a lawyer is another. For there are in nature certain fountains of justice, whence all civil laws are derived but as streams: and like as waters do take tinctures and tastes from the soils through which they run, so do civil laws vary according to the regions and governments where they are planted, though, they proceed from the same fountains. Again, the wisdom of a lawmaker

consisteth not only in a platform of justice, but in the application thereof; taking into consideration by what means laws may be made certain, and what are the causes and remedies of the doubtfulness and incertainty of law; by what means laws may be made apt and easy to be executed, and what are the impediments and remedies in the execution of laws; what influence laws touching private right of meum and tuum have into the public state, and how they may be made apt and agreeable; how laws are to be penned and delivered, whether in texts or in acts, brief or large, with preambles, or without; how they are to be pruned and reformed from time to time, and what is the best means to keep them from being too vast in volumes, or too full of multiplicity and crossness; how they are to be expounded, when upon causes emergent and judically discussed, and when upon responses and conferences touching general points or questions; how they are to be pressed, rigorously or tenderly; how they are to be mitigated by equity and good conscience, and whether discretion and strict law are to be mingled in the same courts, or kept apart in several courts; again, how the practice, profession, and erudition of law is to be censured and governed; and many other points touching the administration, and, as I may term it, animation of laws. Upon which I insist the less, because I purpose, if God give me leave, (having begun a work of this nature in aphorisms,) to propound it hereafter, noting it in the mean time for deficient.

And for your majesty's laws of England, I could say much of their dignity, and somewhat of their defect; but they cannot but excel the civil laws in fitness for the government: for the civil law was "non hos quæsitum munus in usus;" it was not made for the countries which it governeth: hereof I cease to speak, because I will not intermingle matter of action with matter of general learning.

THUS have I concluded this portion of learning touching civil knowledge; and with civil knowledge have concluded human philosophy; and with human philosophy, philosophy in general. And being now at some pause, looking back into that I have passed through, this writing seemeth to me, "si nunquam "fallit imago" (as far as a man can judge of his own work), not much better than that noise or sound which musicians make while they are tuning their instruments; which is nothing pleasant to hear, but yet is a cause why the music is sweeter afterwards: so have I been content to tune the instruments of the muses, that they may play that have better hands. And surely, when I set before me the condition of these times, in which learning hath made her third visitation or circuit in all the qualities thereof—as the excellency and vivacity of the wits of this age; the noble helps and lights which we have by the travails of ancient writers; the art of printing, which communicateth books to men of all fortunes; the openness of the world by navigation, which hath disclosed multitudes of experiments, and

a mass of natural history; the leisure wherewith these times abound, not employing men so generally in civil business, as the states of Græcia did, in respect of their popularity, and the state of Rome, in respect of the greatness of their monarchy; the present disposition of these times at this instant to peace; the consumption of all that ever can be said in controversies of religion, which have so much diverted men from other sciences; the perfection of your majesty's learning, which as a phœnix may call whole vollies of wits to follow you; and the inseparable propriety of time, which is ever more and more to disclose truth—I cannot but be raised to this persuasion that this third period of time will far surpass that of the Græcian and Roman learning: only if men will know their own strength, and their own weakness both; and take one from the other, light of invention, and not fire of contradiction; and esteem of the inquisition of truth as of an enterprise, and not as of a quality or ornament; and employ wit and magnificence to things of worth and excellency, and not to things vulgar and of popular estimation. As for my labours if any man shall please himself or others in the reprehension of them, they shall make that ancient and patient request, "Verbera, sed audi;" let men reprehend them, so they observe and weigh them: for the appeal is lawful, though it may be it shall not be needful, from the first cogitations of men to their second, and from the nearer times to the times farther off. Now let us come to that learning, which both the

former times were not so blessed as to know, sacred and inspired Divinity, the sabbath and port of all men's labours and peregrinations.

THE prerogative of God extendeth as well to the reason as to the will of man; so that as we are to obey his law, though we find a reluctation in our will, so we are to believe his word, though we find a reluctation in our reason. For if we believe only that which is agreeable to our sense, we give consent to the matter, and not to the author; which is no more than we would do towards a suspected and discredited witness; but that faith which was accounted to Abraham for righteousness was of such a point as whereat Sarah laughed, who therein was an image of natural reason.

Howbeit, if we will truly consider it, more worthy it is to believe than to know as we now know. For in knowledge man's mind suffereth from sense; but in belief it suffereth from spirit, such one as it holdeth for more authorised than itself, and so suffereth from the worthier agent. Otherwise it is of the state of man glorified; for then faith shall cease, and we shall know as we are known.

Wherefore we conclude that sacred Theology, (which in our idiom we call Divinity,) is grounded only upon the word and oracle of God, and not upon the light of nature: for it is written, "Cœli "enarrant gloriam Dei;" but it is not written, "Cœli "enarrant voluntatem Dei:" but of that it is said, "Ad legem et testimonium: si non fecerint secun-

"dum verbum istud, &c." This holdeth not only in those points of faith which concern the great mysteries of the Deity, of the creation, of the redemption, but likewise those which concern the law moral truly interpreted: Love your enemies: do good to them that hate you: be like to your heavenly Father, that suffereth his rain to fall upon the just and unjust. To this it ought to be applauded, "Nec vox hominem sonat:" it is a voice beyond the light of nature. So we see the heathen poets, when they fall upon a libertine passion, do still expostulate with laws and moralities, as if they were opposite and malignant to nature: "Et quod natura remittit, "invida jura negant." So said Dendamis the Indian unto Alexander's messengers, "That he had heard "somewhat of Pythagoras, and some other of the "wise men of Græcia, and that he held them for "excellent men: but that they had a fault, which was, "that they had in too great reverence and veneration "a thing they called law and manners." So it must be confessed, that a great part of the law moral is of that perfection, whereunto the light of nature cannot aspire: how then is it that man is said to have, by the light and law of nature, some notions and conceits of virtue and vice, justice and wrong, good and evil? Thus, because the light of nature is used in two several senses; the one, that which springeth from reason, sense, induction, argument, according to the laws of heaven and earth; the other, that which is imprinted upon the spirit of man by an inward instinct, according to the law of

conscience, which is a sparkle of the purity of his first estate: in which latter sense only he is participant of some light and discerning touching the perfection of the moral law: but how? sufficient to check the vice, but not to inform the duty. So then the doctrine of religion, as well moral as mystical, is not to be attained but by inspiration and revelation from God.

The use, notwithstanding, of reason in spiritual things, and the latitude thereof, is very great and general: for it is not for nothing that the apostle calleth religion our reasonable service of God; insomuch as the very ceremonies and figures of the old law were full of reason and signification, much more than the ceremonies of idolatry and magic, that are full of non-significants and surd characters. But most especially the Christian Faith, as in all things, so in this deserveth to be highly magnified; holding and preserving the golden mediocrity in this point between the law of the heathen and the law of Mahomet, which have embraced the two extremes. For the religion of the heathen had no constant belief or confession, but left all to the liberty of argument; and the religion of Mahomet, on the other side, interdicteth argument altogether: the one having the very face of error, and the other of imposture: whereas the faith doth both admit and reject disputation with difference.

The use of human reason in religion is of two sorts: the former, in the conception and apprehension of the mysteries of God to us revealed; the

other, in the inferring and deriving of doctrine and direction thereupon. The former extendeth to the mysteries themselves; but how? by way of illustration, and not by way of argument: the latter consisteth indeed of probation and argument. In the former, we see, God vouchsafeth to descend to our capacity, in the expressing of his mysteries in sort as may be sensible unto us; and doth graft his revelations and holy doctrine upon the notions of our reason, and applieth his inspirations to open our understanding, as the form of the key to the ward of the lock: for the latter, there is allowed us an use of reason and argument, secondary and respetive, although not original and absolute. For after the articles and principles of religion are placed and exempted from examination of reason, it is then permitted unto us to make derivations and inferences from, and according to the analogy of them, for our better direction. In nature this holdeth not; for both the principles are examinable by induction, though not by a medium or syllogism; and besides, those principles or first positions have no discordance with that reason which draweth down and deduceth the inferiour positions. But yet it holdeth not in religion alone, but in many knowledges, both of greater and smaller nature, namely, wherein there are not only posita but placita; for in such there can be no use of absolute reason: we see it familiarly in games of wit, as chess, or the like: the draughts and first laws of the game are positive, but how? merely ad placitum, and not examinable by reason; but

then how to direct our play thereupon with best advantage to win the game, is artificial and rational. So in human laws, there be many grounds and maxims which are placita juris, positive upon authority, and not upon reason, and therefore not to be disputed: but what is most just, not absolutely but relatively, and according to those maxims, that affordeth a long field of disputation. Such therefore is that secondary reason, which hath place in divinity, which is grounded upon the placets of God.

Here therefore I note this deficiency, that there hath not been, to my understanding, sufficiently inquired and handled the true limits and use of reason in spiritual things, as a kind of divine dialectic: which for that it is not done, it seemeth to me a thing usual, by pretext of true conceiving that which is revealed, to search and mine into that which is not revealed; and by pretext of enucleating inferences and contradictories, to examine that which is positive: the one sort falling into the errour of Nicodemus, demanding to have things made more sensible than it pleaseth God to reveal them, "Quo-"modo possit homo nasci cum sit senex?" the other sort into the errour of the disciples, which were scandalized at a show of contradiction, "Quid est hoc "quod dicit nobis? Modicum, et non videbitis me; "et iterum, modicum, et videbitis me, &c."

Upon this I have insisted the more, in regard of the great and blessed use thereof; for this point, well laboured and defined of, would in my judgment

be an opiate to stay and bridle not only the vanity of curious speculations, wherewith the schools labour, but the fury of controversies, wherewith the church laboureth. For it cannot but open men's eyes, to see that many controversies do merely pertain to that which is either not revealed, or positive; and that many others do grow upon weak and obscure inferences or derivations: which latter sort, if men would revive the blessed stile of that great doctor of the Gentiles, would be carried thus, "Ego, non "Dominus;" and again, "Secundum consilium "meum," in opinions and counsels, and not in positions and oppositions. But men are now over-ready to usurp the stile, "Non ego, sed Dominus;" and not so only, but to bind it with the thunder and denunciation of curses and anathemas, to the terror of those which have not sufficiently learned out of Solomon, that "the causeless curse shall not come."

Divinity hath two principal parts; the matter informed or revealed, and the nature of the information or revelation: and with the latter we will begin, because it hath most coherence with that which we have now last handled. The nature of the information consisteth of three branches; the limits of the information, the sufficiency of the information, and the acquiring or obtaining the information. Unto the limits of the information belong these considerations; how far forth particular persons continue to be inspired; how far forth the church is inspired; how far forth reason may be used: the last point whereof I have noted as deficient. Unto

the sufficiency of the information belong two considerations; what points of religion are fundamental, and what perfective, being matter of further building and perfection upon one and the same foundation; and again, how the gradations of light, according to the dispensation of times, are material to the sufficiency of belief.

Here again I may rather give it in advice, than note it as deficient, that the points fundamental, and the points of farther perfection only, ought to be with piety and wisdom distinguished: a subject tending to much like end as that I noted before; for as that other were likely to abate the number of controversies, so this is like to abate the heat of many of them. We see Moses when he saw the Israelite and the Ægyptian fight, he did not say, Why strive you? but drew his sword and slew the Ægyptian: but when he saw the two Israelites fight, he said, You are brethren, why strive you? If the point of doctrine be an Ægyptian, it must be slain by the sword of the Spirit, and not reconciled; but if it be an Israelite, though in the wrong, then, Why strive you? We see of the fundamental points, our Saviour penneth the league thus, "he that is not with us, is "against us;" but of points not fundamental, thus, "He that is not against us, is with us." So we see the coat of our Saviour was entire without seam, and so is the doctrine of the Scriptures in itself; but the garment of the church was of divers colours, and yet not divided: we see the chaff may and ought to be severed from the corn in the ear, but the tares

may not be pulled up from the corn in the field. So as it is a thing of great use well to define what, and of what latitude those points are, which do make men merely aliens and disincorporate from the church of God.

For the obtaining of the information, it resteth upon the true and sound interpretation of the Scriptures, which are the fountains of the water of life. The interpretations of the Scriptures are of two sorts; methodical, and solute or at large. For this divine water, which excelleth so much that of Jacob's well, is drawn forth much in the same kind as natural water useth to be out of wells and fountains; either it is first forced up into a cistern, and from thence fetched and derived for use; or else it is drawn and received in buckets and vessels immediately where it springeth: the former sort whereof, though it seem to be the more ready, yet in my judgment is more subject to corrupt. This is that method which hath exhibited unto us the scholastical divinity; whereby divinity hath been reduced into an art, as into a cistern, and the streams of doctrine or positions fetched and derived from thence.

In this men have sought three things, a summary brevity, a compacted strength, and a complete perfection; whereof the two first they fail to find, and the last they ought not to seek. For as to brevity, we see, in all summary methods, while men purpose to abridge, they give cause to dilate. For the sum or abridgment by contraction becometh obscure; the obscurity requireth exposition, and the exposition is

deduced into large commentaries, or into common places and titles, which grow to be more vast than the original writings, whence the sum was at first extracted. So, we see, the volumes of the schoolmen are greater much than the first writings of the fathers, whence the master of the sentences made his sum or collection. So, in like manner, the volumes of the modern doctors of the civil law exceed those of the ancient jurisconsults, of which Tribonian compiled the digest. So as this course of sums and commentaries is that which doth infallibly make the body of sciences more immense in quantity, and more base in substance.

And for strength, it is true that knowledges reduced into exact methods have a shew of strength, in that each part seemeth to support and sustain the other; but this is more satisfactory than substantial: like unto buildings which stand by architecture and compaction, which are more subject to ruin than those which are built more strong in their several parts, though less compacted. But it is plain that the more you recede from your grounds, the weaker do you conclude: and as in nature, the more you remove yourself from particulars, the greater peril of error you do incur; so much more in divinity, the more you recede from the Scriptures by inferences and consequences, the more weak and dilute are your positions.

And as for perfection or completeness in divinity, it is not to be sought; which makes this course of artificial divinity the more suspect. For he that

will reduce a knowledge into an art, will make it round and uniform: but in divinity many things must be left abrupt, and concluded with this: "O "altitudo sapientiæ et scientiæ Dei! quam incompre- "hensibilia sunt judicia ejus, et non investigabiles "viæ ejus!" So again the apostle saith "Ex parte "scimus:" and to have the form of a total, where there is but matter for a part, cannot be without supplies by supposition and presumption. And therefore I conclude, that the true use of these sums and methods hath place in institutions or introductions preparatory unto knowledge; but in them, or by deducement from them, to handle the main body and substance of a knowledge, is in all sciences prejudicial, and in divinity dangerous.

As to the interpretation of the Scriptures solute and at large, there have been divers kinds introduced and devised; some of them rather curious and unsafe, than sober and warranted. Notwithstanding, thus much must be confessed, that the Scriptures being given by inspiration, and not by human reason, do differ from all other books in the author; which, by consequence, doth draw on some difference to be used by the expositor. For the inditer of them did know four things which no man attains to know; which are, the mysteries of the kingdom of glory, the perfection of the laws of nature, the secrets of the heart of man, and the future succession of all ages. For as to the first, it is said, "He that presseth into the light, shall be oppressed "of the glory." And again, "No man shall see my

"face and live." To the second, "When he pre-
"pared the heavens I was present, when by law and
"compass he inclosed the deep." To the third,
"Neither was it needful that any should bear wit-
"ness to him of man, for he knew well what was in
"man." And to the last, "From the beginning are
"known to the Lord all his works."

From the former of these two have been drawn certain senses and expositions of Scriptures, which had need be contained within the bounds of sobriety; the one anagogical, and the other philosophical. But as to the former, man is not to prevent his time: "Videmus nunc per speculum in ænig-
"mate, tunc autem facie ad faciem:" wherein, nevertheless, there seemeth to be a liberty granted, as far forth as the polishing of this glass, or some moderate explication of this ænigma. But to press too far into it, cannot but cause a dissolution and overthrow of the spirit of man. For in the body there are three degrees of that we receive into it, aliment, medicine, and poison; whereof aliment is that which the nature of man can perfectly alter and overcome: medicine is that which is partly converted by nature, and partly converteth nature; and poison is that which worketh wholly upon nature, without that, that nature can in any part work upon it: so in the mind, whatsoever knowledge reason cannot at all work upon and convert, is a mere intoxication, and endangereth a dissolution of the mind and understanding.

But for the latter, it hath been extremely set on

foot of late time by the school of Paracelsus, and some others, that have pretended to find the truth of all natural philosophy in the Scriptures; scandalizing and traducing all other philosophy as heathenish and profane. But there is no such enmity between God's word and his works; neither do they give honour to the Scriptures, as they suppose, but much imbase them. For to seek heaven and earth in the word of God, (whereof it is said "heaven and "earth shall pass, but my word shall not pass,") is to seek temporary things amongst eternal: and as to seek divinity in philosophy is to seek the living amongst the dead, so to seek philosophy in divinity is to seek the dead amongst the living: neither are the pots or lavers, whose place was in the outward part of the temple, to be sought in the holiest place of all, where the ark of the testimony was seated. And again, the scope or purpose of the Spirit of God is not to express matters of nature in the Scriptures, otherwise than in passage, and for application to man's capacity, and to matters moral or divine. And it is a true rule, "Auctoris aliud "agentis parva auctoritas;" for it were a strange conclusion, if a man should use a similitude for ornament or illustration sake, borrowed from nature or history according to vulgar conceit, as of a basilisk, an unicorn, a centaur, a Briareus, an Hydra, or the like, that therefore he must needs be thought to affirm the matter thereof positively to be true. To conclude therefore, these two interpretations, the one by reduction or ænigmatical, the other philoso-

phical or physical, which have been received and pursued in imitation of the rabbins and cabalists, are to be confined with a "noli altum sapere, sed "time."

But the two latter points, known to God and unknown to man, touching the secrets of the heart, and the successions of time, do make a just and sound difference between the manner of the exposition of the Scriptures and all other books. For it is an excellent observation which hath been made upon the answers of our Saviour Christ to many of the questions which were propounded to him, how that they are impertinent to the state of the question demanded; the reason whereof is, because, not being like man, which knows man's thoughts by his words, but knowing man's thoughts immediately, he never answered their words, but their thoughts: much in the like manner it is with the Scriptures, which being written to the thoughts of men, and to the succession of all ages, with a foresight of all heresies, contradictions, differing estates of the church, yea and particularly of the elect, are not to to be interpreted only according to the latitude of the proper sense of the place, and respectively towards that present occasion whereupon the words were uttered, or in precise congruity or contexture with the words before or after, or in contemplation of the principal scope of the place; but have in themselves, not only totally or collectively, but distributively in clauses and words, infinite springs and streams of doctrine to water the church in every

part. And therefore as the literal sense is, as it were, the main stream or river; so the moral sense chiefly, and sometimes the allegorical or typical, are they whereof the church hath most use: not that I wish men to be bold in allegories, or indulgent or light in allusions; but that I do much condemn that interpretation of the Scripture which is only after the manner as men use to interpret a profane book.

In this part, touching the exposition of the Scriptures, I can report no deficience; but by way of remembrance this I will add: in perusing books of divinity, I find many books of controversies, and many of common places and treatises, a mass of positive divinity, as it is made an art; a number of sermons and lectures, and many prolix commentaries upon the Scriptures, with harmonies and concordances: but that form of writing in divinity, which in my judgment is of all others most rich and precious, is positive divinity, collected upon particular texts of Scriptures in brief observations; not dilated into common places, not chasing after controversies, not reduced into method of art; a thing abounding in sermons, which will vanish, but defective in books which will remain; and a thing wherein this age excelleth. For I am persuaded, (and I may speak it with an "Absit invidia verbo," and no ways in derogation of antiquity, but as in a good emulation between the vine and the olive, that if the choice and best of those observations upon texts of Scriptures, which have been made dispersedly in

sermons within this your majesty's island of Britain by the space of these forty years and more, leaving out the largeness of exhortations and applications thereupon, had been set down in a continuance, it had been the best work in divinity which had been written since the apostles' times.

The matter informed by divinity is of two kinds; matter of belief and truth of opinion, and matter of service and adoration; which is also judged and directed by the former; the one being as the internal soul of religion, and the other as the external body thereof. And therefore the heathen religion was not only a worship of idols, but the whole religion was an idol in itself; for it had no soul, that is, no certainty of belief or confession; as a man may well think, considering the chief doctors of their church were the poets: and the reason was, because the heathen gods were no jealous gods, but were glad to be admitted into part, as they had reason. Neither did they respect the pureness of heart, so they might have external honour and rites.

But out of these two do result and issue four main branches of divinity; faith, manners, liturgy, and government. Faith containeth the doctrine of the nature of God, of the attributes of God, and of the works of God. The nature of God consisteth of three persons in unity of Godhead. The attributes of God are either common to the Deity, or respective to the persons. The works of God summary are two, that of the creation, and that of the

redemption; and both these works, as in total they appertain to the unity of the Godhead, so in their parts they refer to the three persons: that of the creation, in the mass of the matter, to the Father; in the disposition of the form, to the Son; and in the continuance and conservation of the being, to the Holy Spirit: so that of the redemption, in the election and counsel, to the Father; in the whole act and consummation, to the Son; and in the application, to the Holy Spirit; for by the Holy Ghost was Christ conceived in flesh, and by the Holy Ghost are the elect regenerate in spirit. This work likewise we consider either effectually, in the elect; or privately, in the reprobate; or according to appearance, in the visible church.

For Manners, the doctrine thereof is contained in the law, which discloseth sin. The law itself is divided, according to the edition thereof, into the law of nature, the law moral, and the law positive; and according to the stile, into negative and affirmative, prohibitions and commandments. Sin, in the matter and subject thereof, is divided according to the commandments; in the form thereof, it referreth to the three persons in Deity: sins of infirmity against the Father, whose more special attribute is power; sins of ignorance against the Son, whose attribute is wisdom; and sins of malice against the Holy Ghost, whose attribute is grace or love. In the motions of it, it either moveth to the right hand or to the left; either to blind devotion, or to profane and libertine transgression; either in imposing

restraint where God granteth liberty, or in taking liberty where God imposeth restraint. In the degrees and progress of it, it divideth itself into thought, word, or act. And in this part I commend much the deducing of the law of God to cases of conscience; for that I take indeed to be a breaking, and not exhibiting whole of the bread of life. But that which quickeneth both these doctrines of faith and manners, is the elevation and consent of the heart; whereunto appertain books of exhortation, holy meditation, Christian resolution, and the like.

For the Liturgy or service, it consisteth of the reciprocal acts between God and man; which, on the part of God, are the preaching of the word, and the sacraments, which are seals to the covenant, or as the visible word; and on the part of man, invocation of the name of God; and under the law, sacrifices; which were as visible prayers or confessions: but now the adoration being "in spiritu et "veritate," there remaineth only "vituli labiorum;" although the use of holy vows of thankfulness and retribution may be accounted also as sealed petitions.

And for the Government of the church, it consisteth of the patrimony of the church, the franchises of the church, and the offices and jurisdictions of the church, and the laws of the church directing the whole; all which have two considerations, the one in themselves, the other how they stand compatible and agreeable to the civil estate.

This matter of divinity is handled either in form

of instruction of truth, or in form of confutation of falsehood. The declinations from religion, besides the privative, which is atheism, and the branches thereof, are three; heresies, idolatry, and witchcraft; heresies, when we serve the true God with a false worship; idolatry, when we worship false gods, supposing them to be true; and witchcraft, when we adore false gods, knowing them to be wicked and false: for so your majesty doth excellently well observe, that witchcraft is the height of idolatry. And yet we see though these be true degrees, Samuel teacheth us that they are all of a nature, when there is once a receding from the word of God; for so he saith, "Quasi peccatum ariolandi "est repugnare, et quasi scelus idololatriæ nolle "acquiescere."

These things I have passed over so briefly because I can report no deficiency concerning them: for I can find no space or ground that lieth vacant and unsown in the matter of divinity; so diligent have men been, either in sowing of good seed, or in sowing of tares.

Thus have I made as it were a small Globe of the Intellectual World, as truly and faithfully as I could discover; with a note and description of those parts which seem to me not constantly occupate, or not well converted by the labour of man. In which, if I have in any point receded from that which is commonly received, it hath been with a purpose of proceeding in melius, and not in aliud; a mind of

amendment and proficience, and not of change and difference. For I could not be true and constant to the argument I handle, if I were not willing to go beyond others; but yet not more willing than to have others go beyond me again: which may the better appear by this, that I have propounded my opinions naked and unarmed, not seeking to preoccupate the liberty of men's judgments by confutations. For in any thing which is well set down, I am in good hope, that if the first reading move an objection, the second reading will make an answer. And in those things wherein I have erred, I am sure I have not prejudiced the right by litigious arguments; which certainly have this contrary effect and operation, that they add authority to error, and destroy the authority of that which is well invented: for question is an honour and preferment to falsehood, as on the other side it is a repulse to truth. But the errors I claim and challenge to myself as mine own: the good, if any be, is due "tanquam "adeps sacrificii," to be incensed to the honour, first of the Divine Majesty, and next of your majesty, to whom on earth I am most bounden.

Blank page retained for pagination

NEW ATLANTIS.

A WORK UNFINISHED,

WRITTEN

BY THE RIGHT HONOURABLE,

FRANCIS LORD VERULAM,

VISCOUNT ST. ALBAN.

Blank page retained for pagination

TO THE READER.

THIS fable my Lord, devised, to the end, that he might exhibit therein a model or description of a college, instituted for the interpreting of nature, and the producing of great and marvelous works for the benefit of men, under the name of Solomon's House, or the College of the Six Days' Works. And even so far his lordship hath proceeded, as to finish that part. Certainly, the model is more vast, and high, than can possibly be imitated in all things; notwithstanding most things therein are within men's power to effect. His lordship thought also in this present fable to have composed a frame of laws, or of the best state or mould of a commonwealth; but foreseeing it would be a long work, his desire of collecting the Natural History diverted him, which he preferred many degrees before it.

This work of the New Atlantis (as much as concerneth the English edition) his lordship designed for this place;[a] in regard it hath so near affinity (in one part of it) with the preceding Natural History.

W. RAWLEY.

[a] See Note 3 Z, at the end.

Blank page retained for pagination

NEW ATLANTIS.

We sailed from Peru, where we had continued by the space of one whole year, for China and Japan, by the South Sea, taking with us victuals for twelve months; and had good winds from the east, though soft and weak, for five months space and more. But then the wind came about and settled in the west for many days, so as we could make little or no way, and were sometimes in purpose to turn back. But then again there arose strong and great winds from the south, with a point east, which carried us up, for all that we could do, towards the north: by which time our victuals failed us, though we had made good spare of them. So that finding ourselves in the midst of the greatest wilderness of waters in the world, without victual, we gave ourselves for lost men, and prepared for death. Yet we did lift up our hearts and voices to God above, who showeth "his wonders in the deep;" beseeching him of his mercy, that as in the beginning he discovered the face of the deep, and brought forth dry land, so he would now discover land to us that we might not perish. And it came to pass, that the next day about evening, we saw within a kenning before us, towards the north, as it were thick clouds, which did put us in some hope of land; knowing how that part

of the South Sea was utterly unknown; and might have islands or continents, that hitherto were not come to light. Wherefore we bent our course thither, where we saw the appearance of land all that night; and in the dawning of the next day, we might plainly discern that it was a land, flat to our sight and full of boscage, which made it shew the more dark. And after an hour and a half's sailing, we entered into a good haven, being the port of a fair city; not great indeed, but well built, and that gave a pleasant view from the sea. And we thinking every minute long till we were on land, came close to the shore, and offered to land. But straightways we saw divers of the people with bastons in their hands, as it were, forbidding us to land; yet without any cries or fierceness, but only as warning us off by signs that they made. Whereupon being not a little discomforted, we were advising with ourselves what we should do. During which time there made forth to us a small boat, with about eight persons in it; whereof one of them had in his hand a tipstaff of a yellow cane, tipped at both ends with blue, who came aboard our ship, without any show of distrust at all. And when he saw one of our number present himself somewhat afore the rest, he drew forth a little scroll of parchment, somewhat yellower than our parchment, and shining like the leaves of writing tables, but otherwise soft and flexible, and delivered it to our foremost man. In which scroll were written in ancient Hebrew, and in ancient Greek, and in good Latin of the school, and in Spanish, these

words; "Land yo not, none of you, and provide to "be gone from this coast within sixteen days, except "you have further time given you: mean while, if "you want fresh water, or victual, or help for your "sick, or that your ship needeth repair, write down "your wants, and you shall have that which be-"longeth to mercy." This scroll was signed with a stamp of cherubims wings, not spread but hanging downwards, and by them a cross. This being delivered, the officer returned, and left only a servant with us to receive our answer. Consulting hereupon amongst ourselves, we were much perplexed. The denial of landing and hasty warning us away troubled us much; on the other side, to find that the people had languages and were so full of humanity, did comfort us not a little. And above all, the sign of the cross to that instrument was to us a great rejoicing, and as it were a certain presage of good. Our answer was in the Spanish tongue; "That for our ship, it was well; for we had rather "met with calms and contrary winds than any tem-"pests. For our sick, they were many, and in very "ill case; so that if they were not permitted to land, "they ran danger of their lives." Our other wants we set down in particular; adding, "that we "had some little store of merchandise, which if it "pleased them to deal for, it might supply our "wants without being chargeable unto them." We offered some reward in pistolets unto the servant, and a piece of crimson velvet to be presented to the officer; but the servant took them not nor would

scarce look upon them; and so left us, and went back in another little boat which was sent for him.

About three hours after we had dispatched our answer, there came towards us a person, as it seemed, of place. He had on him a gown with wide sleeves, of a kind of water-chamblet, of an excellent azure colour, far more glossy than ours; his under apparel was green, and so was his hat, being in the form of a turban, daintily made, and not so huge as the Turkish turbans; and the locks of his hair came down below the brims of it. A reverend man was he to behold. He came in a boat, gilt in some part of it, with four persons more only in that boat; and was followed by another boat, wherein were some twenty. When he was come within a flight shot of our ship, signs were made to us, that we should send forth some to meet him upon the water, which we presently did in our ship-boat, sending the principal man amongst us save one, and four of our number with him. When we were come within six yards of their boat, they called to us to stay, and not to approach farther; which we did. And thereupon the man, whom I before described, stood up, and with a loud voice in Spanish, asked, "Are ye Chris-"tians?" We answered, "we were;" fearing the less, because of the cross we had seen in the subscription. At which answer the said person lifted up his right hand towards heaven, and drew it softly to his mouth, which is the gesture they use when they thank God, and then said: "If ye will swear, "all of you, by the merits of the saviour, that ye are

" no pirates; nor have shed blood lawfully nor un-
" lawfully within forty days past, you may have
" licence to come on land." We said, " we were all
" ready to take that oath." Whereupon one of
those that were with him, being, as it seemed, a
notary, made an entry of this act. Which done,
another of the attendants of the great person, which
was with him in the same boat, after his lord had
spoken a little to him, said aloud; " My lord would
" have you know, that it is not of pride or greatness,
" that he cometh not aboard your ship; but for that
" in your answer you declare, that you have many
" sick amongst you, he was warned by the conserva-
" tor of health of the city, that he should keep a dis-
" tance." We bowed ourselves towards him and
answered, " we were his humble servants; and ac-
" counted for great honour, and singular humanity
" towards us, that which was already done: but
" hoped well, that the nature of the sickness of our
" men was not infectious." So he returned; and a
while after came the notary to us aboard our ship,
holding in his hand a fruit of that country, like an
orange, but of colour between orange-tawney and
scarlet, which cast a most excellent odour. He used
it, as it seemeth, for a preservative against infection.
He gave us our oath; " By the name of Jesus and
" his merits:" and after told us, that the next day
by six of the clock in the morning we should be sent
to, and brought to the Strangers' house, so he called
it, where we should be accommodated of things,
both for our whole and for our sick. So he left

us; and when we offered him some pistolets, he smiling, said, "he must not be twice paid for one "labour:" meaning, as I take it, that he had salary sufficient of the state for his service. For, as I after learned, they call an officer that taketh rewards, Twice-paid.

The next morning early, there came to us the same officer that came to us at first with his cane, and told us, "he came to conduct us to the Strangers' "house: and that he had prevented the hour, be-"cause we might have the whole day before us for "our business. For," said he, "if you will follow "my advice, there shall first go with me some few "of you, and see the place, and how it may be made "convenient for you; and then you may send for "your sick, and the rest of your number, which ye "will bring on land." We thanked him, and said, that this care, which he took of desolate strangers God would reward, And so six of us went on land with him: and when we were on land, he went be-fore us, and turned to us, and said, "he was but our "servant, and our guide." He led us through three fair streets; and all the way we went there were gathered some people on both sides, standing in a row; but in so civil a fashion, as if it had been, not to wonder at us but to welcome us; and divers of them, as we passed by them, put their arms a little abroad; which is their gesture when they bid any welcome. The Strangers' house is a fair and spacious house, built of brick, of somewhat a bluer colour than our brick; and with handsome windows, some

of glass, some of a kind of cambric oiled. He brought us first into a fair parlour above stairs, and then asked us, "What number of persons we were? "And how many sick?" We answered, "we were "in all, sick and whole, one and fifty persons, "whereof our sick were seventeen." He desired us to have patience a little, and to stay till he came back to us, which was about an hour after; and then he led us to see the chambers, which were provided for us, being in number nineteen: they having cast it, as it seemeth, that four of those chambers, which were better than the rest, might receive four of the principal men of our company, and lodge them alone by themselves; and the other fifteen chambers, were to lodge us two and two together. The chambers were handsome and chearful chambers, and furnished civilly. Then he led us to a long gallery, like a dorture, where he showed us along the one side, for the other side was but wall and window, seventeen cells, very neat ones, having partitions of cedar wood. Which gallery and cells, being in all forty, many more than we needed, were instituted as an infirmary for sick persons. And he told us withal, that as any of our sick waxed well, he might be removed from his cell to a chamber; for which purpose there were set forth ten spare chambers, besides the number we spake of before. This done, he brought us back to the parlour, and lifting up his cane a little, as they do when they give any charge or command, said to us, "Ye are to know that the custom of the "land requireth, that after this day and to-morrow,

" which we give you for removing of your people " from your ship, you are to keep within doors for " three days. But let it not trouble you, nor do not " think yourselves restrained, but rather left to your " rest and ease. You shall want nothing, and there " are six of our people appointed to attend you for " any business you may have abroad," We gave him thanks with all affection and respect, and said, " God surely is manifested in this land." We offered him also twenty pistolets; but he smiled, and only said; " What? twice paid!" And so he left us. Soon after our dinner was served in; which was right good viands, both for bread and meat: better than any collegiate diet that I have known in Europe. We had also drink of three sorts, all wholesome and good; wine of the grape; a drink of grain, such as is with us our ale but more clear; and a kind of cider made of a fruit of that country; a wonderful pleasing and refreshing drink. Besides, there were brought into us great store of those scarlet oranges for our sick; which, they said, were an assured remedy for sickness taken at sea. There was given us also, a box of small grey or whitish pills, which they wished our sick should take, one of the pills every night before sleep; which, they said, would hasten their recovery. The next day, after that our trouble of carriage, and removing of our men and goods out of our ship was somewhat settled and quiet, I thought good to call our company together; and when they were assembled said unto them; " My dear friends, let

" us know ourselves, and how it standeth with us. " We are men cast on land, as Jonas was, out of the " whale's belly, when we were as buried in the deep: " and now we are on land, we are but between " death and life; for we are beyond both the old " world and the new; and whether ever we shall see " Europe, God only knoweth. It is a kind of mi- " racle hath brought us hither: and it must be little- " less that shall bring us hence. Therefore in re- " gard of our deliverance past, and our danger pre- " sent and to come, let us look up to God, and " every man reform his own ways. Besides we are " come here amongst a Christian people, full of " piety and humanity: let us not bring that con- " fusion of face upon ourselves, as to show our vices " or unworthiness before them. Yet there is more: " for they have by commandment, though in form of " courtesy, cloistered us within these walls for three " days: who knoweth whether it be not to take " some taste of our manners and conditions? and " if they find them bad, to banish us straightways; " if good, to give us further time. For these men, " that they have given us for attendance, may withal " have an eye upon us. Therefore for God's love, " and as we love the weale of our souls and bodies, " let us so behave ourselves as we may be at peace " with God, and may find grace in the eyes of this " people." Our company with one voice thanked me for my good admonition, and promised me to live soberly and civilly, and without giving any the least occasion of offence. So we spent our three

days joyfully, and without care, in expectation what would be done with us when they were expired. During which time, we had every hour joy of the amendment of our sick, who thought themselves cast into some divine pool of healing, they mended so kindly and so fast.

The morrow after our three days were past, there came to us a new man, that we had not seen before, clothed in blue as the former was, save that his turban was white, with a small red cross on the top. He had also a tippet of fine linen. At his coming in he did bend to us a little, and put his arms abroad. We of our parts saluted him in a very lowly and submissive manner, as looking that from him we should receive sentence of life or death. He desired to speak with some few of us: whereupon six of us only stayed, and the rest avoided the room. He said, "I am by office governor of this House of "Strangers, and by vocation I am a Christian priest; "and therefore am come to you, to offer you my "service, both as strangers and chiefly as Chris-"tians. Some things I may tell you, which I think "you will not be unwilling to hear. The state hath "given you licence to stay on land for the space of "six weeks: and let it not trouble you if your oc-"casions ask further time, for the law in this point "is not precise; and I do not doubt but myself shall "be able to obtain for you such further time as may "be convenient. Ye shall also understand, that the "Strangers' house is at this time rich, and much "aforehand; for it hath laid up revenue these thirty-

" seven years; for so long it is since any stranger
" arrived in this part: and therefore take ye no
" care; the state will defray you all the time you
" stay; neither shall you stay one day the less for
" that. As for any merchandise ye have brought,
" ye shall be well used, and have your return either
" in merchandise or in gold and silver: for to us it
" is all one. And if you have any other request to
" make, hide it not. For ye shall find, we will not
" make your countenance to fall by the answer ye
" shall receive. Only this I must tell you, that none
" of you must go above a *karan*," that is with them
a mile and a half, " from the walls of the city with-
" out special leave." We answered, after we had
looked awhile one upon another, admiring this gra-
cious and parent-like usage; " that we could not
" tell what to say: for we wanted words to express
" our thanks; and his noble free offers left us no-
" thing to ask. It seemed to us, that we had before
" us a picture of our salvation in heaven; for we
" that were awhile since in the jaws of death, were
" now brought into a place where we found nothing
" but consolations. For the commandment laid
" upon us, we would not fail to obey it, though it
" was impossible but our hearts should be inflamed
" to tread further upon this happy and holy ground."
We added; " that our tongues should first cleave
" to the roofs of our mouths, ere we should forget
" either his reverend person or this whole nation in
" our prayers." We also most humbly besought
him to accept of us as his true servants, by as just a

right as ever men on earth were bounden, laying and presenting both our persons and all we had at his feet. He said; "he was a priest, and looked "for a priest's reward; which was our brotherly "love and the good of our souls and bodies." So he went from us, not without tears of tenderness in his eyes; and left us also confused with joy and kindness, saying amongst ourselves, "that we were "come into a land of angels, which did appear to "us daily, and prevent us with comforts which we "thought not of, much less expected."

The next day, about ten of the clock, the governor came to us again, and after salutations said familiarly, that he was come to visit us: and called for a chair, and sat him down: and we being some ten of us, the rest were of the meaner sort, or else gone abroad, sat down with him. And when we were set, he began thus: "We of this island of "Bensalem," for so they call it in their language, "have this, that by means of our solitary situation, "and of the laws of secrecy which we have for our "travellers, and our rare admission of strangers, we "know well most part of the habitable world and "are ourselves unknown. Therefore because he "that knoweth least is fittest to ask questions, it is "more reason for the entertainment of the time, that "ye ask me questions, than that I ask you." We answered; "That we humbly thanked him that he "would give us leave so to do: and that we con-"ceived by the taste we had already, that there was "no worldly thing on earth more worthy to be

" known than the state of that happy land. But " above all," we said, " since that we were met from " the several ends of the world, and hoped assuredly " that we should meet one day in the kingdom of " heaven, for that we were both parts Christians, " we desired to know, in respect that land was so " remote, and so divided by vast and unknown seas, " from the land where our Saviour walked an earth, " who was the apostle of that nation, and how it " was converted to the faith ?" It appeared in his face that he took great contentment in this our question: he said, " Ye knit my heart to you, by asking " this question in the first place; for it sheweth that " you ' first seek the kingdom of heaven;' and I shall " gladly and briefly satisfy your demand.

" About twenty years after the ascension of our " Saviour, it came to pass, that there was seen by " the people of Renfusa, a city upon the eastern " coast of our island, within night, the night was " cloudy and calm, as it might be some mile into " the sea, a great pillar of light; not sharp, but in " form of a column or cylinder rising from the sea, a " great way up towards heaven: and on the top of " it was seen a large cross of light, more bright and " resplendent than the body of the pillar. Upon " which so strange a spectacle, the people of the " city gathered apace together upon the sands to " wonder; and so after put themselves into a num- " ber of small boats, to go nearer to this marvellous " sight. But when the boats were come within " about sixty yards of the pillar, they found them-

"selves all bound, and could go no further, yet so as "they might move to go about, but might not ap- "proach nearer: so as the boats stood all as in a "theatre, beholding this light as an heavenly sign. "It so fell out, that there was in one of the boats "one of the wise men of the society of Solomon's "house, which house or college, my good brethren, "is the very eye of this kingdom; who having "awhile attentively and devoutly viewed and con- "templated this pillar and cross, fell down upon his "face; and then raised himself upon his knees, and "lifting up his hands to heaven, made his prayers "in this manner:

"Lord God of heaven and earth, thou hast "vouchsafed of thy grace, to those of our order, to "know thy works of creation, and the secrets of "them; and to discern, as far as appertaineth to "the generations of men, between divine miracles, "works of nature, works of art, and impostures and "illusions of all sorts. I do here acknowledge and "testify before this people, that the thing which we "now see before our eyes, is thy finger, and a true "miracle; and forasmuch as we learn in our books, "that thou never workest miracles, but to a divine "and excellent end, for the laws of nature are "thine own laws, and thou exceedest them not but "upon great cause, we most humbly beseech thee "to prosper this great sign, and to give us the "interpretation and use of it in mercy; which thou "dost in some part secretly promise by sending it "unto us.

"When he had made his prayer, he presently "found the boat he was in moveable and unbound: "whereas all the rest remained still fast; and taking "that for an assurance of leave to approach, he "caused the boat to be softly and with silence rowed "towards the pillar. But ere he came near it, the "pillar and cross of light brake up, and cast itself "abroad, as it were into a firmament of many stars; "which also vanished soon after, and there was no-"thing left to be seen but a small ark or chest of "cedar, dry, and not wet at all with water, though "it swam. And in the fore-end of it which was "towards him, grew a small green branch of palm; "and when the wise man had taken it with all re-"verence into his boat, it opened of itself, and there "were found in it a book and a letter, both written "in fine parchment, and wrapped in sindons of linen. "The book contained all the canonical books of the "Old and New Testament, according as you have "them, for we know well what the Churches with "you receive, and the Apocalypse itself: and some "other books of the New Testament, which were "not at that time written, were nevertheless in the "book: and for the letter it was in these words:

"I Bartholomew, a servant of the Highest, and "Apostle of Jesus Christ, was warned by an angel "that appeared to me in a vision of glory, that I "should commit this ark to the floods of the sea. "Therefore I do testify and declare, unto that people "where God shall ordain this ark to come to land, "that in the same day is come unto them salvation,

" and peace, and good-will, from the Father, and " from the Lord Jesus.

" There was also in both these writings, as well " the book as the letter, wrought a great miracle, " conform to that of the Apostles in the original gift " of tongues. For there being at that time in this " land, Hebrews, Persians, and Indians, besides the " natives, every one read upon the book and letter, " as if they had been written in his own language. " And thus was this land saved from infidelity, as " the remain of the old world was from water, by " an ark, through the apostolical and miraculous " evangelism of St. Bartholomew." And here he paused, and a messenger came, and called him from us. So this was all that passed in that conference.

The next day the same governor came again to us immediately after dinner, and excused himself, saying, " that the day before he was called from us " somewhat abruptly, but now he would make us " amends, and spend time with us, if we held his " company and conference agreeable:" We answered, " that we held it so agreeable and pleasing " to us, as we forgot both dangers past and fears to " come, for the time we heard him speak; and that " we thought an hour spent with him, was worth " years of our former life." He bowed himself a little to us, and after we were set again, he said; " Well, the questions are on your part." One of our number said, after a little pause; " that there " was a matter we were no less desirous to know,

"than fearful to ask, lest we might presume too far. "But encouraged by his rare humanity towards "us, that could scarce think ourselves strangers, "being his vowed and professed servants, we would "take the hardiness to propound it: humbly be-"seeching him, if he thought it not fit to be an-"swered, that he would pardon it, though he re-"jected it." We said; "we well observed those "his words, which he formerly spake, that this "happy island where we now stood, was known to "few, and yet knew most of the nations of the "world; which we found to be true, considering "they had the languages of Europe, and knew "much of our state and business; and yet we in "Europe, notwithstanding all the remote discove-"ries and navigations of this last age, never heard "any of the least inkling or glimpse of this island. "This we found wonderful strange; for that all "nations have inter-knowledge one of another "either by voyage into foreign parts, or by stran-"gers that come to them: and though the traveller "into a foreign country doth commonly know more "by the eye, than he that stayeth at home can by "relation of the traveller; yet both ways suffice to "make a mutual knowledge, in some degree, on "both parts. But for this island, we never heard "tell of any ship of theirs, that had been seen to "arrive upon any shore of Europe; no, nor of either "the East or West Indies, nor yet of any ship of "any other part of the world, that had made return "from them. And yet the marvel rested not in

"this. For the situation of it, as his lordship said, "in the secret conclave of such a vast sea might "cause it. But then, that they should have know-"ledge of the languages, books, affairs, of those that "lie such a distance from them, it was a thing we "could not tell what to make of; for that it seemed "to us a condition and propriety of divine powers "and beings, to be hidden and unseen to others, and "yet to have others open, and as in a light to "them." At this speech the governor gave a gracious smile, and said; "that we did well to ask "pardon for this question we now asked; for that "it imported, as if we thought this land a land of "magicians, that sent forth spirits of the air into all "parts, to bring them news and intelligence of "other countries." It was answered by us all, in all possible humbleness, but yet with a countenance taking knowledge that we knew that he spake it but merrily, "That we were apt enough to think "there was something supernatural in this island, "but yet rather as angelical than magical. But to "let his lordship know truly, what it was that made "us tender and doubtful to ask this question, it was "not any such conceit, but because we remembered, "he had given a touch in his former speech, that "this land had laws of secrecy touching strangers." To this he said; "You remember it aright; and "therefore in that I shall say to you, I must reserve "some particulars, which it is not lawful for me to "reveal; but there will be enough left to give you "satisfaction.

"You shall understand, that which perhaps you "will scarce think credible, that about three thou- "sand years ago, or somewhat more, the navigation "of the world, especially for remote voyages, was "greater than at this day. Do not think with your- "selves, that I know not how much it is increased "with you within these six-score years: I know it "well; and yet I say greater then than now: whe- "ther it was, that the example of the ark, that "saved the remnant of men from the universal de- "luge, gave men confidence to adventure upon the "waters, or what it was, but such is the truth. The "Phœnicians, and especially the Tyrians, had great "fleets. So had the Carthaginians their colony, "which is yet further west. Toward the east, the "shipping of Egypt, and of Palestine, was likewise "great. China also, and the great Atlantis, that "you call America, which have now but junks and "canoes, abounded then in tall ships. This island, "as appeareth by faithful registers of those times, "had then fifteen hundred strong ships, of great "content. Of all this there is with you sparing "memory, or none; but we have large knowledge "thereof.

"At that time, this land was known and fre- "quented by the ships and vessels of all the nations "before named. And, as it cometh to pass, they "had many times men of other countries, that were "no sailors, that came with them; as Persians, "Chaldeans, Arabians, so as almost all nations of "might and fame resorted hither; of whom we

" have some stirps and little tribes with us at this
" day. And for our own ships, they went sundry
" voyages, as well to your Straits, which you call
" the pillars of Hercules, as to other parts in the
" Atlantic and Mediterranean Seas; as to Peguin,
" which is the same with Cambaline, and Quinzy,
" upon the Oriental Seas, as far as to the borders of
" the East Tartary.

" At the same time, and an age after, or more,
" the inhabitants of the great Atlantis did flourish.
" For though the narration and description which is
" made by a great man with you, that the descend-
" ants of Neptune planted there; and of the magni-
" ficent temple, palace, city, and hill; and the mani-
" fold streams of goodly navigable rivers, which, as
" so many chains, environed the same site and
" temple; and the several degrees of ascent, where-
" by men did climb up to the same, as if it had been
" a *scala cœli*, be all poetical and fabulous: yet so
" much is true, that the said country of Atlantis, as
" well as that of Peru, then called Coya, as that of
" Mexico, then named Tyrambel, were mighty and
" proud kingdoms, in arms, shipping, and riches: so
" mighty, as at one time, or at least within the
" space of ten years, they both made two great ex-
" peditions, they of Tyrambel, through the Atlantic
" to the Mediterranean Sea; and they of Coya,
" through the South Sea upon this our island: and
" for the former of these, which was into Europe,
" the same author amongst you, as it seemeth, had
" some relation from the Egyptian priest whom he

" citeth. For assuredly, such a thing there was, but
" whether it were the ancient Athenians that had
" the glory of the repulse and resistance of those
" forces, I can say nothing: but certain it is, there
" never came back either ship, or man, from that
" voyage. Neither had the other voyage of those of
" Coya upon us had better fortune, if they had not
" met with enemies of greater clemency. For the
" king of this island, by name Altabin, a wise man,
" and a great warrior; knowing well both his own
" strength and that of his enemies; handled the
" matter so, as he cut off their land-forces from their
" ships, and entoiled both their navy and their camp,
" with a greater power then theirs, both by sea and
" land; and compelled them to render themselves
" without striking stroke: and after they were at
" his mercy, contenting himself only with their
" oath, that they should no more bear arms against
" him, dismissed them all in safety. But the divine
" revenge overtook not long after those proud en-
" terprises. For within less than the space of one
" hundred years, the great Atlantis was utterly
" lost and destroyed: not by a great earthquake, as
" your man saith, for that whole tract is little sub-
" ject to earthquakes, but by a particular deluge or
" inundation: those countries having, at this day,
" far greater rivers, and far higher mountains, to
" pour down waters, than any part of the old world.
" But it is true, that the same inundation was not
" deep; not past forty foot, in most places, from the
" ground: so that although it destroyed man and

" beast generally, yet some few wild inhabitants of
" the wood escaped. Birds also were saved by
" flying to the high trees and woods. For as for
" men, although they had buildings in many places
" higher than the depth of the water; yet that in-
" undation, though it were shallow, had a long con-
" tinuance; whereby they of the vale, that were not
" drowned, perished for want of food, and other
" things necessary. So as marvel you not at the
" thin population of America, nor at the rudeness
" and ignorance of the people; for you must ac-
" count your inhabitants of America as a young
" people; younger a thousand years, at the least,
" than the rest of the world; for that there was so
" much time between the universal flood and their
" particular inundation. For the poor remnant of
" human seed, which remained in their mountains,
" peopled the country again slowly, by little and
" little; and being simple and savage people, not
" like Noah and his sons, which was the chief family
" of the earth, they were not able to leave letters,
" arts, and civility to their posterity; and having
" likewise in their mountainous habitations been
" used, in respect of the extreme cold of those re-
" gions, to clothe themselves with the skins of tigers,
" bears, and great hairy goats, that they have in
" those parts: when after they came down into the
" valley, and found the intolerable heats which are
" there, and knew no means of lighter apparel, they
" were forced to begin the custom of going naked,
" which continueth at this day. Only they take

" great pride and delight in the feathers of birds; " and this also they took from those their ancestors " of the mountains, who were invited unto it by the " infinite flights of birds, that came up to the high " grounds, while the waters stood below. So you " see, by this main accident of time, we lost our traf- " fic with the Americans, with whom, of all others, " in regard they lay nearest to us, we had most com- " merce. As for the other parts of the world, it is " most manifest, that in the ages following, whether " it were in respect of wars, or by a natural revolu- " tion of time, navigation did every where greatly " decay; and especially far voyages, the rather by " the use of galleys, and such vessels as could hardly " brook the ocean, were altogether left and omitted. " So then, that part of intercourse which could be " from other nations to sail to us, you see how it " hath long since ceased; except it were by some " rare accident, as this of yours. But now of the " cessation of that other part of intercourse, which " might be by our sailing to other nations, I must " yield you some other cause. For I cannot say, if " I shall say truly, but our shipping, for number, " strength, mariners, pilots, and all things that ap- " pertain to navigation, is as great as ever: and " therefore why we should sit at home, I shall now " give you an account by itself: and it will draw " nearer to give you satisfaction to your principal " question.

" There reigned in this island, about nineteen " hundred years ago, a king, whose memory of all

" others we most adore; not superstitiously, but as
" a divine instrument, though a mortal man; his
" name was Solomona: and we esteem him as the
" lawgiver of our nation. This king had a large
" heart, inscrutable for good, and was wholly bent
" to make his kingdom and people happy. He
" therefore taking into consideration, how sufficient
" and substantive this land was to maintain itself
" without any aid at all of the foreigner, being five
" thousand six hundred miles in circuit, and of rare
" fertility of soil, in the greatest part thereof; and
" finding also the shipping of this country might be
" plentifully set on work, both by fishing and by
" transportations from port to port, and likewise by
" sailing unto some small islands that are not far
" from us, and are under the crown and laws of this
" state; and recalling into his memory the happy
" and flourishing state wherein this land then was;
" so as it might be a thousand ways altered to the
" worse, but scarce any one way to the better;
" thought nothing wanted to his noble and heroical
" intentions, but only, as far as human foresight
" might reach, to give perpetuity to that, which was
" in his time so happily established. Therefore
" amongst his other fundamental laws of this king-
" dom, he did ordain the interdicts and prohibitions,
" which we have, touching entrance of strangers;
" which at that time, though it was after the cala-
" mity of America, was frequent; doubting novel-
" ties, and commixture of manners. It is true, the
" like law, against the admission of strangers with-

" out licence, is an ancient law in the kingdom of
" China, and yet continued in use: but there it is a
" poor thing; and hath made them a curious, igno-
" rant, fearful, foolish nation. But our lawgiver
" made his law of another temper. For first, he
" hath preserved all points of humanity, in taking
" order, and making provision for the relief of stran-
" gers distressed, whereof you have tasted." At
which speech, as reason was, we all rose up, and
bowed ourselves. He went on. " That king also,
" still desiring to join humanity and policy together;
" and thinking it against humanity to detain stran-
" gers here against their wills; and against policy
" that they should return, and discover their know-
" ledge of this estate, he took this course: he did
" ordain, that of the strangers that should be per-
" mitted to land, as many, at all times, might depart
" as would; but as many as would stay, should have
" very good conditions, and means to live, from the
" state. Wherein he saw so far, that now in so many
" ages since the prohibition, we have memory, not
" of one ship that ever returned, and but of thirteen
" persons only, at several times, that chose to return
" in our bottoms. What those few that returned
" may have reported abroad I know not: but you
" must think, whatsoever they have said, could be
" taken where they came but for a dream. Now for
" our travelling from hence into parts abroad, our
" lawgiver thought fit altogether to restrain it. So
" is it not in China. For the Chinese sail where
" they will or can; which sheweth, that their law of

" keeping out strangers is a law of pusillanimity
" and fear. But this restraint of ours hath one only
" exception, which is admirable; preserving the
" good which cometh by communicating with stran-
" gers, and avoiding the hurt; and I will now open
" it to you. And here I shall seem a little to di-
" gress, but you will by and by find it pertinent.
" Ye shall understand, my dear friends, that amongst
" the excellent acts of that king, one above all hath
" the pre-eminence. It was the erection and insti-
" tution of an order or society which we call Solo-
" mon's House; the noblest foundation, as we think,
" that ever was upon the earth, and the lanthorn of
" this kingdom. It is dedicated to the study of the
" works and creatures of God. Some think it
" beareth the founder's name a little corrupted, as if
" it should be Solomona's House. But the records
" write it as it is spoken. So as I take it to be de-
" nominate of the King of the Hebrews, which is
" famous with you, and no stranger to us; for we
" have some parts of his works, which with you are
" lost; namely, that Natural History which he wrote
" of all plants, 'from the cedar of Libanus, to the
" 'moss that groweth out of the wall;' and of all
" things that have life and motion, This maketh
" me think, that our king finding himself to symbo-
" lize in many things with that king of the Hebrews,
" which lived many years before him, honoured him
" with the title of this foundation. And I am the
" rather induced to be of this opinion, for that I find
" in ancient records this order or society is some-

" times called Solomon's House, and sometimes the
" college of the six days works; whereby I am satis-
" fied, that our excellent king had learned from the
" Hebrews, that God had created the world, and all
" that therein is, within six days; and therefore he
" instituting that house for the finding out of the
" true nature of all things, whereby God might have
" the more glory in the workmanship of them, and
" men the more fruit in the use of them, did give it
" also that second name. But now to come to our
" present purpose. When the king had forbidden
" to all his people navigation into any part, that was
" not under his crown, he made nevertheless this
" ordinance; that every twelve years there should
" be set forth, out of this kingdom, two ships ap-
" pointed to several voyages; that in either of these
" ships there should be a mission of three of the fel-
" lows or brethren of Solomon's House; whose er-
" rand was only to give us knowledge of the affairs
" and state of those countries to which they were de-
" signed; and especially of the sciences, arts, manu-
" factures, and inventions of all the world; and
" withal to bring unto us books, instruments, and
" patterns in every kind: that the ships, after they
" had landed the brethren, should return; and that
" the brethren should stay abroad till the new mis-
" sion. These ships are not otherwise fraught, than
" with store of victuals, and good quantity of trea-
" sure to remain with the brethren, for the buying
" of such things, and rewarding of such persons, as
" they should think fit. Now for me to tell you

" how the vulgar sort of mariners are contained from
" being discovered at land; and how they that must
" be put on shore for any time, colour themselves
" under the names of other nations; and to what
" places these voyages have been designed; and
" what places of rendezvous are appointed for the
" new missions, and the like circumstances of the
" practique, I may not do it: neither is it much to
" your desire. But thus you see we maintain a
" trade, not for gold, silver, or jewels; nor for silks;
" nor for spices; nor any other commodity of mat-
" ter; but only for God's first creature, which was
" light: to have light, I say, of the growth of all
" parts of the world." And when he had said this, he was silent; and so were we all. For indeed we were all astonished to hear so strange things so probably told. And he perceiving that we were willing to say somewhat, but had it not ready, in great courtesy took us off, and descended to ask us questions of our voyage and fortunes, and in the end concluded, that we might do well to think with ourselves, what time of stay we would demand of the state; and bade us not to scant ourselves; for he would procure such time as we desired. Whereupon we all rose up, and presented ourselves to kiss the skirt of his tippet, but he would not suffer us; and so took his leave. But when it came once amongst our people, that the state used to offer conditions to strangers that would stay, we had work enough to get any of our men to look to our ship; and to keep them from going presently to the governor to

crave conditions. But with much ado we refrained them, till we might agree what course to take.

We took ourselves now for free men, seeing there was no danger of our utter perdition; and lived most joyfully, going abroad and seeing what was to be seen in the city and places adjacent within our tedder; and obtaining acquaintance with many of the city, not of the meanest quality; at whose hands we found such humanity, and such a freedom and desire to take strangers as it were into their bosom, as was enough to make us forget all that was dear to us in our own countries: and continually we met with many things, right worthy of observation and relation; as indeed, if there be a mirror in the world worthy to hold mens eyes, it is that country. One day there were two of our company bidden to a feast of the family, as they call it. A most natural, pious, and reverend custom it is, shewing that nation to be compounded of all goodness. This is the manner of it. It is granted to any man, that shall live to see thirty persons descended of his body alive together, and all above three years old, to make this feast, which is done at the cost of the state. The father of the family, whom they call the Tirsan, two days before the feast, taketh to him three of such friends as he liketh to choose; and is assisted also by the governor of the city, or place, where the feast is celebrated; and all the persons of the family of both sexes are summoned to attend him. These two days the Tirsan sitteth in consultation concerning the good estate

of the family. There, if there be any discord or suits between any of the family, they are compounded and appeased. There, if any of the family be distressed or decayed, order is taken for their relief, and competent means to live. There, if any be subject to vice, or take ill courses, they are reproved and censured. So likewise direction is given touching marriages, and the courses of life which any of them should take, with divers other the like orders and advices. The governor assisteth, to the end to put in execution, by his public authority, the decrees and orders of the Tirsan, if they should be disobeyed; though that seldom needeth; such reverence and obedience they give to the order of nature. The Tirsan doth also then ever choose one man from amongst his sons, to live in the house with him: who is called ever after the Son of the Vine. The reason will hereafter appear. On the feast-day, the father, or Tirsan, cometh forth after divine service into a large room where the feast is celebrated; which room hath an half pace at the upper end. Against the wall, in the middle of the half pace, is a chair placed for him, with a table and carpet before it. Over the chair is a state made round or oval, and it is of ivy; an ivy somewhat whiter than ours, like the leaf of a silver asp, but more shining, for it is green all winter. And the state is curiously wrought with silver and silk of divers colours, broiding or binding in the ivy; and is ever of the work of some of the daughters of the family; and veiled over at the top with a fine net of silk and silver. But the

substance of it is true ivy; whereof, after it is taken down, the friends of the family are desirous to have some leaf or sprig to keep. The Tirsan cometh forth with all his generation or lineage, the males before him, and the females following him; and if there be a mother, from whose body the whole lineage is descended, there is a traverse placed in a loft above on the right hand of the chair, with a privy door, and a carved window of glass, leaded with gold and blue; where she sitteth, but is not seen. When the Tirsan is come forth, he sitteth down in the chair; and all the lineage place themselves against the wall, both at his back, and upon the return of the half pace, in order of their years, without difference of sex, and stand upon their feet. When he is set, the room being always full of company, but well kept, and without disorder; after some pause there cometh in from the lower end of the room a taratan, which is as much as an herald, and on either side of him two young lads; whereof one carrieth a scroll of their shining yellow parchment: and the other a cluster of grapes of gold, with a long foot or stalk. The herald and children are clothed with mantles of sea-water green sattin; but the herald's mantle is streamed with gold, and hath a train. Then the herald with three curtesies, or rather inclinations, cometh up as far as the half pace; and there first taketh into his hand the scroll. This scroll is the king's charter, containing gift of revenue, and many privileges, exemptions, and points of honour, granted to the father of the family; and is

ever styled and directed, "To such an one, our well-"beloved friend and creditor:" which is a title proper only to this case. For they say, the king is debtor to no man, but for propagation of his subjects. The seal set to the king's charter, is the king's image, imbossed or moulded in gold; and though such charters be expedited of course, and as of right, yet they are varied by discretion, according to the number and dignity of the family. This charter the herald readeth aloud: and while it is read, the father or Tirsan standeth up, supported by two of his sons, such as he chooseth. Then the herald mounteth the half pace, and delivereth the charter into his hand: and with that there is an acclamation by all that are present in their language, which is thus much: "Happy are the people of Bensalem." Then the herald taketh into his hand from the other child the cluster of grapes, which is of gold both the stalk and the grapes. But the grapes are daintily enamelled; and if the males of the family be the greater number, the grapes are enamelled purple with a little sun set on the top; if the females, then they are enamelled into a greenish yellow, with a crescent on the top. The grapes are in number as many as there are descendants of the family. This golden cluster the herald delivereth also to the Tirsan; who presently delivereth it over to that son, that he had formerly chosen to be in the house with him: who beareth it before his father as an ensign of honour, when he goeth in public, ever after; and is thereupon called the Son of the Vine. After this

ceremony ended, the father or Tirsan retireth; and after some time cometh forth again to dinner, where he sitteth alone under the state as before; and none of his descendants sit with him, of what degree or dignity soever, except he hap to be of Solomon's house. He is served only by his own children, such as are male; who perform unto him all service of the table upon the knee; and the women only stand about him, leaning against the wall. The room below the half pace, hath tables on the sides for the guests that are bidden; who are served with great and comely order; and towards the end of dinner, which, in the greatest feasts with them, lasteth never above an hour and an half, there is an hymn sung, varied according to the invention of him that composeth it, for they have excellent poesy, but the subject of it is, always, the praises of Adam, and Noah, and Abraham; whereof the former two peopled the world, and the last was the father of the faithful: concluding ever with a thanksgiving for the nativity of our Saviour, in whose birth the births of all are only blessed. Dinner being done, the Tirsan retireth again; and having withdrawn himself alone into a place, where he maketh some private prayers, he cometh forth the third time, to give the blessing; with all his descendants, who stand about him as at the first. Then he calleth them forth by one and by one, by name, as he pleaseth, though seldom the order of age be inverted. The person that is called, the table being before removed, kneeleth down before the chair, and the father layeth his hand upon

his head, or her head, and giveth the blessing in these words: "Son of Bensalem, or daughter of "Bensalem, thy father saith it; the man by whom "thou hast breath and life speaketh the word; The "blessing of the everlasting Father, the Prince of "Peace, and the Holy Dove be upon thee, and make "the days of thy pilgrimage good and many." This he saith to every of them; and that done, if there be any of his sons of eminent merit and virtue, so they be not above two, he calleth for them again; and saith, laying his arm over their shoulders, they standing; "Sons, it is well ye are born, give God "the praise, and persevere to the end." And withal he delivereth to either of them a jewel, made in the figure of an ear of wheat, which they ever after wear in the front of their turban or hat. This done, they fall to music and dances, and other recreations, after their manner, for the rest of the day. This is the full order of that feast.

By that time six or seven days were spent, I was fallen into strait acquaintance with a merchant of that city, whose name was Joabin. He was a Jew, and circumcised: for they have some few stirps of Jews yet remaining among them, whom they leave to their own religion; which they may the better do, because they are of a far differing disposition from the Jews in other parts. For whereas they hate the name of Christ, and have a secret inbred rancour against the people amongst whom they live: these, contrariwise, give unto our Saviour many high attributes, and love the nation of Bensalem extremely.

Surely this man of whom I speak, would ever acknowledge that Christ was born of a virgin; and that he was more than a man; and he would tell how God made him ruler of the seraphims which guard his throne; and they call him also the milken way, and the Eliah of the Messias; and many other high names; which though they be inferior to his divine Majesty, yet they are far from the language of other Jews. And for the country of Bensalem, this man would make no end of commending it: being desirous by tradition among the Jews there, to have it believed, that the people thereof were of the generations of Abraham, by another son, whom they call Nachoran; and that Moses, by a secret cabala, ordained the laws of Bensalem which they now use; and that when the Messias should come, and sit in his throne at Hierusalem, the king of Bensalem should sit at his feet, whereas other kings should keep a great distance. But yet setting aside these Jewish dreams, the man was a wise man, and learned, and of great policy, and excellently seen in the laws and customs of that nation. Amongst other discourses, one day I told him I was much affected with the relation I had from some of the company, of their custom in holding the feast of the family; for that, methought, I had never heard of a solemnity wherein nature did so much preside. And because propagation of families proceedeth from the nuptial copulation, I desired to know of him, what laws and customs they had concerning marriage; and whether they kept marriage well;

and whether they were tied to one wife? For that where population is so much affected, and such as with them it seemed to be, there is commonly permission of plurality of wives. To this he said, "You "have reason for to commend that excellent in- "stitution of the feast of the family; and indeed we "have experience, that those families that are par- "takers of the blessing of that feast, do flourish and "prosper ever after in an extraordinary manner. "But hear me now, and I will tell you what I know. "You shall understand that there is not under the "heavens so chaste a nation as this of Bensalem; nor "so free from all pollution or foulness. It is the "virgin of the world. I remember I have read in "one of your European books, of an holy hermit "among you, that desired to see the spirit of forni- "cation; and there appeared to him a little foul "ugly Æthiop; but if he had desired to see the "spirit of chastity of Bensalem, it would have ap- "peared to him in the likeness of a fair beautiful "cherubim. For there is nothing amongst mortal "men more fair and admirable, than the chaste "minds of this people. Know therefore that with "them there are no stews, no dissolute houses, no "courtesans, nor any thing of that kind. Nay, they "wonder, with detestation, at you in Europe, which "permit such things. They say, ye have put mar- "riage out of office: for marriage is ordained a re- "medy for unlawful concupiscence; and natural "concupiscence seemeth as a spur to marriage. "But when men have at hand a remedy more agree-

" able to their corrupt will, marriage is almost ex-
" pulsed. And therefore there are with you seen in-
" finite men that marry not, but chuse rather a li-
" bertine and impure single life, than to be yoked in
" marriage; and many that do marry, marry late,
" when the prime and strength of their years is
" past. And when they do marry, what is marriage
" to them but a very bargain; wherein is sought al-
" liance, or portion, or reputation, with some desire,
" almost indifferent, of issue; and not the faithful
" nuptial union of man and wife, that was first insti-
" tuted. Neither is it possible, that those that have
" cast away so basely so much of their strength should
" greatly esteem children, being of the same matter,
" as chaste men do. So likewise during marriage,
" is the case much amended, as it ought to be if
" those things were tolerated only for necessity?
" No, but they remain still as a very affront to mar-
" riage. The haunting of those dissolute places, or
" resort to courtesans, are no more punished in mar-
" ried men than in bachelors. And the depraved
" custom of change, and the delight in meretricious
" embracements, where sin is turned into art,
" maketh marriage a dull thing, and a kind of im-
" position or tax. They hear you defend these
" things, as done to avoid greater evils; as advou-
" tries, deflouring of virgins, unnatural lust, and the
" like. But they say, this is a preposterous wisdom;
" and they call it Lot's offer, who to save his guests
" from abusing, offered his daughters: nay, they
" say farther, that there is little gained in this; for

"that the same vices and appetites do still remain "and abound; unlawful lust being like a furnace, "that if you stop the flames altogether it will "quench; but if you give it any vent it will rage. "As for masculine love, they have no touch of it; "and yet there are not so faithful and inviolate "friendships in the world again as are there; and "to speak generally, as I said before, I have not read "of any such chastity in any people as theirs. And "their usual saying is, That whosoever is unchaste "cannot reverence himself: and they say, That the "reverence of a man's self is, next religion, the "chiefest bridle of all vices." And when he had said this, the good Jew paused a little; whereupon I, far more willing to hear him speak on than to speak myself; yet thinking it decent, that upon his pause of speech I should not be altogether silent, said only this; "that I would say to him, as the widow of "Sarepta said to Elias; that he was come to bring "to memory our sins; and that I confess the righte-"ousness of Bensalem was greater than the righte-"ousness of Europe." At which speech he bowed his head, and went on in this manner: "They have "also many wise and excellent laws touching mar-"riage. They allow no polygamy; they have or-"dained that none do intermarry, or contract, until "a month be passed from their first interview. Mar-"riage without consent of parents they do not make "void, but they mulct it in the inheritors: for the "children of such marriages are not admitted to in-"herit above a third part of their parents' inherit-

" ance. I have read in a book of one of your men, " of a feigned commonwealth, where the married " couple are permitted before they contract, to see one " another naked. This they dislike; for they think " it a scorn to give a refusal after so familiar know- " ledge: but because of many hidden defects in men " and women's bodies, they have a more civil way; for " they have near every town a couple of pools, which " they call Adam and Eve's pools, where it is permitted " to one of the friends of the man, and another of " the friends of the woman, to see them severally " bathe naked."

And as we were thus in conference, there came one that seemed to be a messenger, in a rich huke, that spake with the Jew: whereupon he turned to me and said; " You will pardon me, for I am com- " manded away in haste." The next morning he came to me again joyful, as it seemed, and said, " There is word come to the governor of the city, " that one of the fathers of Solomon's House will be " here this day seven-night: we have seen none of " them this dozen years. His coming is in state; " but the cause of his coming is secret. I will pro- " vide you and your fellows of a good standing to " see his entry." I thanked him, and told him, I was most glad of the news. The day being come, he made his entry. He was a man of middle stature and age, comely of person, and had an aspect as if he pitied men. He was clothed in a robe of fine black cloth, with wide sleeves and a cape. His under garment was of excellent white linen down to

the foot, girt with a girdle of the same; and a sindon or tippet of the same about his neck. He had gloves that were curious, and set with stone; and shoes of peach-coloured velvet. His neck was bare to the shoulders. His hat was like a helmet, or Spanish Montera; and his locks curled below it decently: they were of colour brown. His beard was cut round, and of the same colour with his hair, somewhat lighter. He was carried in a rich chariot without wheels, litter-wise, with two horses at either end, richly trapped in blue velvet embroidered; and two footmen on each side in the like attire. The chariot was all of cedar, gilt, and adorned with crystal; save that the fore-end had pannels of sapphires, set in borders of gold, and the hinder-end the like of emeralds of the Peru colour. There was also a sun of gold, radiant upon the top, in the midst; and on the top before a small cherub of gold, with wings displayed. The chariot was covered with cloth of gold tissued upon blue. He had before him fifty attendants, young men all, in white sattin loose coats to the mid-leg, and stockings of white silk; and shoes of blue velvet; and hats of blue velvet; with fine plumes of divers colours, set round like hat-bands. Next before the chariot went two men bare headed, in linen garments down to the foot, girt, and shoes of blue velvet, who carried the one a crosier, the other a pastoral staff, like a sheep-hook; neither of them of metal, but the crosier of balm-wood, the pastoral staff of cedar. Horsemen he had none, neither before nor behind his chariot:

as it seemeth, to avoid all tumult and trouble. Behind his chariot went all the officers and principals of the companies of the city. He sat alone, upon cushions of a kind of excellent plush, blue; and under his foot curious carpets of silk of divers colours, like the Persian, but far finer. He held up his bare hand as he went, as blessing the people, but in silence. The street was wonderfully well kept: so that there was never any army had their men stand in better battle-array, than the people stood. The windows likewise were not crouded, but every one stood in them as if they had been placed. When the shew was past, the Jew said to me; "I shall "not be able to attend you as I would, in regard of "some charge the city hath laid upon me, for the "entertaining of this great person." Three days after the Jew came to me again, and said; "Ye are "happy men; for the father of Solomon's House "taketh knowledge of your being here, and com-"manded me to tell you, that he will admit all your "company to his presence, and have private confer-"ence with one of you that ye shall choose: and for "this hath appointed the next day after to-morrow. "And because he meaneth to give you his blessing, "he hath appointed it in the forenoon." We came at our day and hour, and I was chosen by my fellows for the private access. We found him in a fair chamber, richly hanged, and carpeted under foot, without any degrees to the state; he was set upon a low throne richly adorned, and a rich cloth of state over his head, of blue sattin embroidered.

He was alone, save that he had two pages of honour, on either hand one, finely attired in white. His under-garments were the like that we saw him wear in the chariot; but instead of his gown, he had on him a mantle with a cape, of the same fine black, fastened about him. When we came in, as we were taught, we bowed low at our first entrance; and when we were come near his chair, he stood up, holding forth his hand ungloved, and in posture of blessing; and we every one of us stooped down, and kissed the hem of his tippet. That done, the rest departed, and I remained. Then he warned the pages forth of the room, and caused me to sit down beside him, and spake to me thus in the Spanish tongue:

"God bless thee, my son; I will give thee "the greatest jewel I have. For I will impart "unto thee, for the love of God and men, a re-"lation of the true state of Solomon's House. "Son, to make you know the true state of Solo-"mon's House, I will keep this order. First, I will "set forth unto you the end of our foundation. "Secondly, the preparations and instruments we "have for our works. Thirdly, the several em-"ployments and functions whereto our fellows are "assigned. And, fourthly, the ordinances and rites "which we observe.

"The end of our foundation is the know-"ledge of causes, and secret motions of things;

" and the enlarging of the bounds of human empire,
" to the effecting of all things possible.

" The preparations and instruments are these.
" We have large and deep caves of several depths:
" the deepest are sunk six hundred fathom; and
" some of them are digged and made under great
" hills and mountains: so that if you reckon toge-
" ther the depth of the hill, and the depth of the
" cave, they are, some of them, above three miles
" deep. For we find that the depth of an hill, and
" the depth of a cave from the flat, is the same
" thing; both remote alike from the sun and heaven's
" beams, and from the open air. These caves we
" call the lower region. And we use them for all
" coagulations, indurations, refrigerations, and con-
" servations of bodies. We use them likewise for
" the imitation of natural mines: and the pro-
" ducing also of new artificial metals, by compo-
" sitions and materials which we use and lay there
" for many years. We use them also sometimes,
" which may seem strange, for curing of some
" diseases, and for prolongation of life, in some
" hermits that choose to live there, well accom-
" modated of all things necessary, and indeed
" live very long; by whom also we learn many
" things.

" We have burials in several earths, where we
" put divers cements, as the Chineses do their por-
" cellain. But we have them in greater variety,
" and some of them more fine. We have also great

" variety of composts, and soils, for the making of
" the earth fruitful.

" We have high towers; the highest about half
" a mile in height; and some of them likewise set
" upon high mountains; so that the vantage of the
" hill with the tower, is in the highest of them three
" miles at least. And these places we call the upper
" region: accounting the air between the high places
" and the low, as a middle region. We use these
" towers, according to their several heights and si-
" tuations, for insolation, refrigeration, conservation,
" and for the view of divers meteors; as winds, rain,
" snow, hail, and some of the fiery meteors also.
" And upon them, in some places, are dwellings of
" hermits, whom we visit sometimes, and instruct
" what to observe.

" We have great lakes both salt and fresh, whereof
" we have use for the fish and fowl. We use them
" also for burials of some natural bodies: for we
" find a difference in things buried in earth, or in air,
" below the earth; and things buried in water. We
" have also pools, of which some do strain fresh
" water out of salt; and others by art do turn fresh
" water into salt. We have also some rocks in the
" midst of the sea: and some bays upon the shore
" for some works, wherein is required the air and
" vapour of the sea. We have likewise violent
" streams and cataracts, which serve us for many
" motions: and likewise engines for multiplying
" and enforcing of winds, to set also on going divers
" motions.

"We have also a number of artificial wells and "fountains, made in imitation of the natural sources "and baths; as tincted upon vitriol, sulphur, steel, "brass, lead, nitre, and other minerals. And "again, we have little wells for infusions of many "things, where the waters take the virtue quicker "and better, than in vessels or basons. And "amongst them we have a water, which we call "water of paradise, being, by that we do to it, "made very sovereign for health, and prolongation "of life.

"We have also great and spacious houses, "where we imitate and demonstrate meteors; as "snow, hail, rain, some artificial rains of bodies, "and not of water, thunders, lightnings; also "generations of bodies in air; as frogs, flies, and "divers others.

"We have also certain chambers, which we call "chambers of health, where we qualify the air as we "think good and proper for the cure of divers dis-"eases, and preservation of health.

"We have also fair and large baths, of several "mixtures, for the cure of diseases, and the re-"storing of man's body from arefaction: and "others, for the confirming of it in strength of si-"news, vital parts, and the very juice and substance "of the body.

"We have also large and various orchards and "gardens, wherein we do not so much respect "beauty, as variety of ground and soil, proper for "divers trees and herbs: and some very spacious,

" where trees and berries are set, whereof we make " divers kinds of drinks, besides the vineyards. In " these we practise likewise all conclusions of " grafting and inoculating, as well of wild trees as " fruit trees, which produceth many effects. And " we make, by art, in the same orchards and gar- " dens, trees and flowers to come earlier or later " than their seasons; and to come up and bear " more speedily than by their natural course they " do. We make them also by art greater much " than their nature; and their fruit greater, and " sweeter, and of differing taste, smell, colour, " and figure, from their nature. And many of " them we so order, as they become of medicinal " use.

" We have also means to make divers plants rise " by mixtures of earths without seeds; and likewise " to make divers new plants, differing from the " vulgar; and to make one tree or plant turn into " another.

" We have also parks and inclosures of all sorts " of beasts and birds, which we use not only for " view or rareness, but likewise for dissections and " trials; that thereby we may take light what may " be wrought upon the body of man. Wherein we " find many strange effects; as continuing life in " them, though divers parts, which you account " vital, be perished, and taken forth; resuscitating " of some that seem dead in appearance; and the " like. We try also all poisons and other medicines " upon them, as well of chirurgery as physic. By

" art likewise, we make them greater or taller than
" their kind is; and contrariwise dwarf them, and
" stay their growth: we make them more fruitful
" and bearing than their kind is; and contrariwise
" barren, and not generative. Also we make them
" differ in colour, shape, activity, many ways. We
" find means to make commixtures and copu-
" lations of different kinds, which have produced
" many new kinds, and them not barren, as the
" general opinion is. We make a number of kinds
" of serpents, worms, flies, fishes, of putrefaction;
" whereof some are advanced in effect to be perfect
" creatures, like beasts, or birds; and have sexes,
" and do propagate. Neither do we this by chance,
" but we know beforehand, of what matter and
" commixture, what kind of those creatures will
" arise.

" We have also particular pools, where we make
" trials upon fishes, as we have said before of beasts
" and birds.

" We have also places for breed and generation
" of those kinds of worms, and flies, which are of
" special use; such as are with you your silk-worms
" and bees.

" I will not hold you long with recounting of
" our brew-houses, bake-houses, and kitchens, where
" are made divers drinks, breads, and meats, rare,
" and of special effects. Wines we have of grapes;
" and drinks of other juice, of fruits, of grains, and
" of roots: and of mixtures with honey, sugar,
" manna, and fruits dried and decocted. Also of the

" tears or woundings of trees, and of the pulp of
" canes. And these drinks are of several ages, some
" to the age or last of forty years. We have drinks
" also brewed with several herbs, and roots, and
" spices; yea, with several fleshes, and white meats;
" whereof some of the drinks are such as they are in
" effect meat and drink both: so that divers, espe-
" cially in age, do desire to live with them, with
" little or no meat, or bread. And above all, we
" strive to have drinks of extreme thin parts, to in-
" sinuate into the body, and yet without all biting,
" sharpness, or fretting; insomuch as some of them
" put upon the back of your hand, will, with a little
" stay, pass through to the palm, and yet taste mild
" to the mouth. We have also waters which we
" ripen in that fashion as they become nourishing;
" so that they are indeed excellent drink; and many
" will use no other. Breads we have of several grains,
" roots, and kernels: yea, and some of flesh, and
" fish, dried; with divers kinds of leavenings and
" seasonings: so that some do extremely move ap-
" petites; some do nourish so, as divers do live on
" them, without any other meat; who live very long.
" So for meats, we have some of them so beaten,
" and made tender, and mortified, yet without all
" corrupting, as a weak heat of the stomach will
" turn them into good chylus, as well as a strong
" heat would meat otherwise prepared. We have
" some meats also, and breads and drinks, which
" taken by men enable them to fast long after;
" and some other, that used make the very flesh

" of mens' bodies sensibly more hard and tough,
" and their strength far greater than otherwise it
" would be.

" We have dispensatories, or shops of medicines;
" wherein you may easily think, if we have such
" variety of plants and living creatures more than
" you have in Europe, (for we know what you
" have,) the simples, drugs, and ingredients of me-
" dicines, must likewise be in so much the greater
" variety. We have them likewise of divers ages,
" and long fermentations. And for their prepara-
" tions, we have not only all manner of exquisite
" distillations and separations, and especially by
" gentle heats and percolations through divers
" strainers, yea, and substances; but also exact
" forms of composition, whereby they incorporate
" almost as they were natural simples.

" We have also divers mechanical arts, which you
" have not; and stuffs made by them; as papers,
" linen, silks, tissues; dainty works of feathers of
" wonderful lustre; excellent dyes, and many others;
" and shops likewise as well for such as are not
" brought into vulgar use among us, as for those
" that are. For you must know, that of the things
" before recited, many of them are grown into use
" throughout the kingdom; but yet, if they did flow
" from our invention, we have of them also for pat-
" terns and principals.

" We have also furnaces of great diversities, and
" that keep great diversity of heats; fierce and
" quick; strong and constant; soft and mild; blown,

" quiet, dry, moist; and the like. But above all, we " have heats in imitation of the sun's and heavenly " bodies heats, that pass divers inequalities, and, as " it were, orbs, progresses, and returns, whereby, we " produce admirable effects. Besides, we have heats " of dungs, and of bellies and maws of living crea- " tures, and of their bloods and bodies; and of " hays and herbs laid up moist; of lime unquenched; " and such like. Instruments also which generate " heat only by motion. And farther, places for " strong insolations; and again, places under the " earth, which by nature or art, yield heat. These " divers heats we use, as the nature of the opera- " tion which we intend requireth.

" We have also perspective houses, where we " make demonstrations of all lights and radiations; " and of all colours; and out of things uncoloured " and transparent, we can represent unto you all " several colours; not in rain-bows, as it is in gems " and prisms, but of themselves single. We repre- " sent also all multiplications of light, which we " carry to great distance; and make so sharp, as to " discern small points and lines; also all colorations " of light: all delusions and deceits of the sight, " in figures, magnitudes, motions, colours: all de- " monstrations of shadows. We find also divers " means yet unknown to you, of producing of light " originally from divers bodies. We procure means " of seeing objects afar off; as in the heaven and " remote places; and represent things near as far " off; and things afar off as near; making feigned

" distances. We have also helps for the sight, far " above spectacles and glasses in use. We have also " glasses and means, to see small and minute bodies " perfectly and distinctly; as the shapes and colours " of small flies and worms, grains, and flaws in " gems, which cannot otherwise be seen; observa- " tions in urine and blood, not otherwise to be " seen. We make artificial rain-bows, halos, and " circles about light. We represent also all man- " ner of reflections, refractions, and multiplications " of visual beams of objects.

" We have also precious stones of all kinds, " many of them of great beauty, and to you un- " known; crystals likewise; and glasses of divers " kinds; and amongst them some of metals vitrifi- " cated, and other materials, besides those of which " you make glass. Also a number of fossils, and " imperfect minerals, which you have not. Like- " wise loadstones of prodigious virtue; and other " rare stones, both natural and artificial.

" We have also sound-houses, where we prac- " tise and demonstrate all sounds, and their gene- " ration. We have harmonies which you have not, " of quarter-sounds, and lesser slides of sounds. " Divers instruments of music likewise to you un- " known, some sweeter than any you have; together " with bells and rings that are dainty and sweet. " We represent small sounds as great and deep; " likewise great sounds extenuate and sharp; we " make divers tremblings and warblings of sounds, " which in their original are entire. We represent

" and imitate all articulate sounds and letters, and
" the voice and notes of beasts and birds. We have
" certain helps, which set to the ear do further the
" hearing greatly. We have also divers strange and
" artificial echos, reflecting the voice many times,
" and as it were tossing it: and some that give back
" the voice louder than it came; some shriller, and
" some deeper; yea, some rendering the voice
" differing in the letters or articulate sound from
" that they receive. We have also means to convey
" sounds in trunks and pipes, in strange lines and
" distances.

" We have also perfume-houses; wherewith we
" join also practices of taste. We multiply smells,
" which may seem strange. We imitate smells,
" making all smells to breathe out of other mixtures
" than those that give them. We make divers imi-
" tations of taste likewise, so that they will deceive
" any man's taste. And in this house we contain
" also a confiture-house; where we make all sweet-
" meats, dry and moist, and divers pleasant wines,
" milks, broths, and salads, in far greater variety
" than you have.

" We have also engine-houses, where are pre-
" pared engines and instruments for all sorts of
" motions. There we imitate and practise to make
" swifter motions than any you have, either out of
" your muskets, or any engine that you have; and
" to make them, and multiply them more easily, and
" with small force, by wheels and other means: and
" to make them stronger, and more violent than

" yours are; exceeding your greatest cannons and
" basilisks. We represent also ordnance and instru-
" ments of war, and engines of all kinds: and like-
" wise new mixtures and compositions of gun-pow-
" der, wildfires burning in water, and unquenchable.
" Also fire-works of all variety both for pleasure
" and use. We imitate also flights of birds; we
" have some degrees of flying in the air; we have
" ships and boats for going under water, and brook-
" ing of seas; also swimming-girdles and supporters.
" We have divers curious clocks, and other like
" motions of return, and some perpetual motions.
" We imitate also motions of livings creatures, by
" images of men, beasts, birds, fishes, and serpents;
" we have also a great number of other various
" motions, strange for equality, fineness, and sub-
" tility.

" We have also a mathematical house, where are
" represented all instruments, as well of geometry as
" astronomy, exquisitely made.

" We have also houses of deceits of the senses;
" where we represent all manner of feats of juggling,
" false apparitions, impostures, and illusions; and
" their fallacies. And surely you will easily believe,
" that we that have so many things truly natural,
" which induce admiration, could in a world of par-
" ticulars deceive the senses if we would disguise
" those things, and labour to make them seem more
" miraculous. But we do hate all impostures and
" lies: insomuch as we have severally forbidden it
" to all our fellows, under pain of ignominy and

" fines, that they do not shew any natural work or " thing, adorned or swelling; but only pure as it " is, and without all affectation of strangeness.

" These are, my son, the riches of Solomon's " House.

" For the several employments and offices of our " fellows; we have twelve that sail into foreign " countries, under the names of other nations, for " our own we conceal, who bring us the books, and " obstructs, and patterns of experiments of all other " parts. These we call merchants of light.

" We have three that collect the experiments " which are in all books. These we call depredators.

" We have three that collect the experiments of " all mechanical arts; and also of liberal sciences; " and also of practices which are not brought into " arts. These we call mystery-men.

" We have three that try new experiments, such " as themselves think good. These we call pioneers " or miners.

" We have three that draw the experiments of " the former four into titles, and tablets, to give the " better light for the drawing of observations and " axioms out of them. These we call compilers.

" We have three that bend themselves, looking " into the experiments of their fellows, and cast " about how to draw out of them things of use and " practice for man's life and knowledge, as well for " works, as for plain demonstration of causes, means " natural divinations, and the easy and clear disco-

" very of the virtues and parts of bodies. These we
" call dowry-men or benefactors.

" Then after divers meetings and consults of our
" whole number, to consider of the former labours
" and collections, we have three that take care, out
" of them, to direct new experiments, of a higher
" light, more penetrating into nature than the for-
" mer. These we call lamps.

" We have three others that do execute the ex-
" periments so directed, and report them. These we
" call inoculators.

" Lastly, we have three that raise the former dis-
" coveries by experiments into greater observations,
" axioms, and aphorisms. These we call interpreters
" of nature.

" We have also, as you must think, novices and
" apprentices, that the succession of the former em-
" ployed men do not fail: besides a great number of
" servants, and attendants, men and women. And
" this we do also: we have consultation, which of
" the inventions and experiences which we have dis-
" covered shall be published, and which not: and
" take all an oath of secrecy, for the concealing of
" those which we think fit to keep a secret: though
" some of those we do reveal sometimes to the state,
" and some not.

" For our ordinances and rites: we have two very
" long and fair galleries: in one of these we place
" patterns and samples of all manner of the more
" rare and excellent inventions: in the other we place
" the statues of all principal inventors. There we

" have the statue of your Columbus, that discovered
" the West Indies: also the inventor of ships: your
" monk that was the inventor of ordnance, and of
" gunpowder: the inventor of music: the inventor
" of letters: the inventor of printing: the inventor
" of observations of astronomy: the inventor of
" works in metal: the inventor of glass: the in-
" ventor of silk of the worm: the inventor of wine:
" the inventor of corn and bread: the inventor of
" sugars: and all these by more certain tradition
" than you have. Then have we divers inventors
" of our own excellent works; which since you
" have not seen, it were too long to make descrip-
" tions of them; and besides, in the right under-
" standing of these descriptions, you might easily
" err. For upon every invention of value, we erect
" a statue to the inventor, and give him a liberal and
" honourable reward. These statues are, some of
" brass; some of marble and touch-stone; some of
" cedar, and other special woods gilt and adorned:
" some of iron; some of silver; some of gold.

" We have certain hymns and services, which we
" say daily, of laud and thanks to God for his mar-
" vellous works: and forms of prayers, imploring
" his aid and blessing for the illumination of our
" labours; and the turning of them into good and
" holy uses.

" Lastly, we have circuits or visits of divers
" principal cities of the kingdom; where, as it
" cometh to pass, we do publish new profitable in-
" ventions as we think good. And we do also declare

"natural divinations of diseases, plagues, swarms of "hurtful creatures, scarcity, tempests, earthquakes, "great inundations, comets, temperature of the "year, and divers other things; and we give counsel "thereupon what the people shall do for the pre-"vention and remedy of them."

And when he had said this, he stood up; and I, as I had been taught, kneeled down; and he laid his right hand upon his head, and said; "God bless "thee, my son, and God bless this relation which I "have made. I give thee leave to publish it for the "good of other nations; for we here are in God's "bosom, a land unknown." And so he left me; having assigned a value of about two thousand ducats, for a bounty to me and my fellows. For they give great largesses where they come upon all occasions.

[THE REST WAS NOT PERFECTED.]

Blank page retained for pagination

NOTES.

NOTE A.

Referring to page vi of Analysis.

Of the miseries attendant upon this doctrine of stooping to occasions, Bacon was, perhaps, a sad instance. It may be true, to use the words of old Fuller. "To blame are they whose minds may seem to be made of one entire bone without any joints; they cannot bend at all, but stand as stiffly in things of pure indifferency, as in matters of absolute necessity:" but how distant is this inflexibility in trifles, from the stooping to occasions recommended by Bacon.—(See page 33.)

How unlike to Solon! who, when Æsop said to him, "O Solon! "either we must not come to Princes, or else we must seek to please "and content them," answered "Either we must not come to Princes "at all, or else we must needs tell them truly and counsel them for "the best."—How unlike to Seneca speaking to Nero! "Suffer me "to stay here a little longer with thee, not to flatter thine ear, for "this is not my custom; I had rather offend thee by truth, than "please thee by flattery."

There is in this part of the work (see page 32,) an observation upon dedications, which, except by this doctrine of the necessity of stooping to occasions, it seems difficult to reconcile with Bacon's dedication to the King. Some allowance may, possibly, be made for the exuberance of expression with which dedications at that time abounded, and, *secundum majus et minus*, will at all times abound: epistles dedicatory and epitaphs, being, it is said, the proper places for panegyric.—See as specimens, Dryden's dedications to the Earl of Abingdon and to the Duke of Ormond. See Locke's dedication to Lord Pembroke of his Essay on the Human Understanding, in which there are some passages in the same style of adulation. See also Addison's dedication to the Earl of Wharton, in Spectator, Vol. V.—To Mr. Metheuen, Vol. VII., and to Lord Somers, Vol. I. See also Middleton's dedication of his Life of Cicero to Lord Hervey, in which he, as usual, ascribing every virtue to his patron, says, "I "could wish to see the dedicatory style reduced to that classical "simplicity, with which the ancient writers used to present their "books to their friends or patrons." Some allowance too may be made for the style in which princes have, at all times, been addressed, and particularly in the reigns of Elizabeth and James, when Sir Nicholas Bacon, after the Queen's departure from Gorhambury, caused the door to be closed that no other step might pass the same threshold; and when a dedication to the King in the style of the dedication of the Spanish Grammar of the Academy, 'La 'Academia Castellana,' which begins simply Senor, and ends only Senor, would have partaken almost of the nature of treason." Some allowance may be made for Bacon's anxiety that his work should be protected by the King, from a supposition that this protection was

necessary for the advancement of knowledge. In his letter of the 12th of October, 1620, to the King, he says, speaking of the Novum Organum: "This work is but a new body of clay, whereinto your Majesty, "by your countenance and protection, may breathe life. And, to "tell your Majesty truly what I think, I account your favour may "be to this work as much as an hundred years time: for I am per-"suaded, the work will gain upon men's minds in ages, but your "gracing it may make it take hold more swiftly; which I would be "very glad of, it being a work meant, not for praise or glory, but "for practice, and the good of men."

If this opinion of the necessity of the King's protection, or of any patronage, for the progress of knowledge, be now supposed a weakness: if in these times, and in this enlightened country, truth has nothing to dread: if Galileo may now, without fear of the inquisition, assert that the earth moves round; or if an altar is raised to the "unknown God," he who is ignorantly worshipped, we may declare; let us not be unmindful of the present state of the press in other countries, or forget that, although Bacon saw a little ray of distant light, yet that it was seen from far, the refraction of truth yet below the horizon. Let us not forget that he had neither schools or disciples. "We," he says, "judge "also, that mankind may conceive some hope from our exam-"ple, which we offer, not by way of ostentation, but because it "may be useful. If any one, therefore, should despair, let him "consider a man as much employed in civil affairs as any other of "his age, a man of no great share of health, who must therefore "have lost much time, and yet, in this undertaking, he is the "first that leads the way, unassisted by any mortal, and stedfastly "entering the true path that was absolutely untrod before, and "submitting his mind to things, may thus have somewhat advanced "the design." Let us, remembering this, not withhold from him the indulgence which he solicits for the infirmities from which even philosophy is not exempt. "I am not ignorant what it is that I do "now move and attempt, nor insensible of mine own weakness to "sustain my purpose; but my hope is that if my extreme love to "learning carry me too far, I may obtain the excuse of affection; for "'that it is not granted to man to love and to be wise.'"

In addition to these reasons, the explanation to the penetration and judgment of the reader in the body of the treatise of the object of the address with which it opens, ought not to be forgotten; and some caution ought, it should seem, to be used in not suffering our judgments to be warped when examining a charge of indignity offered by such a philosopher to philosophy; but, after every caution which can in justice be used, and after every allowance which can in charity be made, it cannot but be wished that this work, which will be consecrated to the remotest posterity for its many excellencies, had not in any part or for any purpose, been wanting in that dignity for which, as a whole, it stands so proudly eminent.

NOTE B.

Referring to page vii of Analysis.

As to prevalence of delicate learning.

"After the barbarism of the feudal times, the only politeness of "conversation, as the only knowledge, was among the clergy. Tour-

"naments, hunting, hawking, &c. made the sole occupation of the "nobility. Upon the revival of the humanity studies, they were "eagerly followed, to polish as well as to inform. They answered "that end which keeping good company does at this day; they gave "an habitual elegance to the conversation and sentiments of those "who cultivated them, and were therefore, at that time, of much "more positive import than at present, or even in Bacon's time. As "society became improved, and its intercourse became more fre-"quent, the nicety and time bestowed in these pursuits became a "frivolous vanity: the end was otherwise answered; hence may be "deduced their gradual decline, till at length they serve now for the "first institutions of schools, and, perhaps, for the occasional amuse-"ment of a few persons of just taste, who read them not for infor-"mation, but through indolence.

"Of the renovation of the humanity studies, in Europe, particu-"larly the Greek language, vid. Hody de Græcis illustribus, &c. who "has given the lives of Lunf. Pilatus, who was master Boccace, of "Crysolorus, Gaza, Trapezuntius, Bessarion, and others, who past "into Europe, and lectured on the Greek language, both before and "after the taking of Constantinople."

"Among the promoters of frivolous studies, may be reckoned the "modern Latin poets, of various nations: the making verses in a "dead language was the prevalent taste and occupation of the "learned world, at the revival of letters, and produced almost infi-"nite attempts of an inferior order, for a very few good poets. Those, "in fact, who possessed the powers of imagination and judgment, "displayed them successfully in whatever language they wrote: as "Politian, Fracastiro, Vida, Criton, whose two remaining poems "have great merit, of Mantuan and some others. The rest attained "the language, and were elegantly dull. Such were Vaniere and "Rapin the jesuits, Barberini, (D'Urban,) and even Casimir with "some conceptions.

NOTE C.

Referring to page ix of Analysis.

In the Novum Organum this sentiment is repeated. "The opi-"nions which men entertain of antiquity, is a very idle thing, and "almost incongruous to the word; for the old age and length of "days of the world, should in reality be accounted antiquity, and "ought to be attributed to our own times, not to the youth of "the world, which it enjoyed among the ancients: for that age, "though with respect to us it be ancient and greater, yet, with regard "to the world, it was new and less. And as we justly expect a "greater knowledge of things, and a riper judgment, from a man of "years than from a youth, on account of the greater experience, and "the greater variety and number of things seen, heard, and thought "of, by the person in years; so might much greater matters be "justly expected from the present age, (if it knew but its own "strength, and would make trial and apply,) than from former "times; as this is the more advanced age of the world, and now en-"riched and furnished with infinite experiments and observations.

Sir Henry Wotton, in his answer to Bacon's presentation of the Novum Organum, says, "of your Novum Organum I shall speak "more hereafter; but I have learnt thus much already by it, that "we are extremely mistaken in the computation of antiquity by

" searching it backwards; because, indeed, the first times were the
" youngest.'"

NOTE D.

Referring to page ix of Analysis.

Bacon, in various parts of his works, expresses his disapprobation of method and arrangement, but acknowledges the necessity of attention to style, for the purpose of rendering philosophy acceptable to heedless or unwilling ears.—See page 202 of this volume, where he explains the preference of writing in aphorisms to methodical writing: for as to writing in aphorisms, he says; 1st. It trieth the writer whether he be superficial or solid. 2d. Methods are more fit to win consent or belief, but less fit to point to action. 3d. Aphorisms generate enquiry. And again, see page 307, when speaking of interpretation of Scripture, he says,

" It is true that knowledges reduced into exact methods have a
" shew of strength, in that each part seemeth to support and sustain
" the other; but this is more satisfactory than substantial: like unto
" buildings which stand by architecture and compaction, which are
" more subject to ruin than those which are built more strong in
" their several parts, though less compacted.

And again he says,

" 'The worst and most absurd sort of triflers are those who have
" pent the whole art into strict methods and narrow systems, which
" men commonly cry up for the sake of their regularity and style.'"

" 'Knowledge is uttered to men in a form, as if every thing were
" finished: for it is reduced into arts and methods which in their
" divisions do seem to include all that may be. And how weakly
" soever the parts are filled, yet they carry the shew and reason of a
" total; and thereby the writings of some received authors go for
" the very act: whereas antiquity used to deliver the knowledge
" which the mind of man had gathered in observations, aphorisms,
" or short or dispersed sentences, or small tractates of some parts
" that they had diligently meditated and laboured; which did incite
" men both to ponder that which was invented and to add and
" supply further

" 'Rawley, in his preface to the Sylva Sylvarum, says, I have
" heard his lordship often say, that, if hee should have served the
" glory of his owne name, hee had beene better not to have pub-
" lished this naturall history: for it may seeme an indigested heape
" of particulars, and cannot have their lustre, which bookes cast
" into methods have: but that he resolved to preferre the goode of
" men, and that which might best secure it, before any thing that
" might have relation to himselfe. I have heard his lordship say
" also, that one great reason, why hee would not put these particu-
" lars into any exact method (though hee that looketh attentively
" into them shall finde that they have a secret order) was, because
" he conceived that other men would not thinke, that they could
" doe the like; and so goe on with a further collection; which if
" the method had beene exact, many would have despaired to attaine
" by imitation.'"

His opinion of the necessity of attention to style is stated in page 34 and 37 of this work, in his dissertation upon Delicate Learning. To these opinions of Bacon's, we are most probably indebted for the symmetry and beauty in the Advancement of Learning.

They have been, as Bacon foresaw they would be, causes, and only temporary causes, of the preference which has been given to the Advancement of Learning. He was too well acquainted with what he terms the idols of the mind to be diverted from truth either by the love of order or by the love of beauty. He knew the charms of theories and systems, and the necessity of adopting them to insure a favourable reception for abstruse works, but he was not misled by them. It did not require his sagacity to predict such observations as, two centuries after his death, have been made upon his classification by the philosophers of our times. The noble temple which he raised may now, perhaps, be destroyed and rejected of the builders altogether, but though it should be levelled to the ground, the genius of true philosophy will stand discovered among the ruins.

Professor Stewart, after various observations upon the arrangements of Bacon and D'Alembert, says, "If the foregoing strictures "be well founded, it seems to follow, that not only the endeavours "of Bacon and D'Alembert to classify the sciences and arts accord-"ing to a logical division of our faculties, is altogether unsatisfac-"tory, but that every future attempt of the same kind may be ex-"pected to be liable to similar objections."—Bentham in his Chrestomathia, speaking of Bacon's arrangement, says, "Of the "sketch given by D'Alembert the leading principles are, as he "himself has been careful to declare, taken from that given by "Lord Bacon. Had it been entirely his own, it would have been, "beyond comparison, a better one. For the age of Bacon, Bacon's "was a precocious and precious fruit of the union of learning with "science: for the age of D'Alembert, it will, it is believed, be "found but a poor production, below the author as well as the "age."—The Chrestomathia then contains various objections to these systems of arrangement, and suggests another system which, perhaps, after the lapse of two more centuries, will share the same fate. No man was, for his own sake, less attached to system or ornament than Lord Bacon. A plain, unadorned style in aphorisms, in which the Novum Organum is written, is, he invariably states, the proper style for philosophy.

NOTE E.

Referring to page x of Analysis.

Amongst the many "idols of the undertsanding," as they are termed by Bacon; amongst the many tendencies of the mind to warp us from truth, the most subtle seem to be those which emanate from the love of truth itself, undermining the understanding, as ruin ever works, on the side of our virtues. The love of truth, the desire to know the causes of things, is, perhaps, one of our strongest passions; and, like all strong passion, it has a tendency, unless restrained, to hurry us into excess. From an impatience to possess this treasure we are induced to assent hastily, and accept counterfeits as sterling coin:—we are induced to generalize hastily, and to abandon universality, to suppose that we have attained the truth in all the extent in which it exists. The idols of the understanding from the love of truth which generate haste, seem therefore to be

1. Hasty Assent.
2. Hasty Generalization.
3. Abandoning Universality.

This note is upon "Abandoning universality," the nature of which is mentioned in page 48 of this work, and in pages 124—127 and 153. And in the treatise "De Augmentis," there is an observation founded upon this doctrine which is not contained in the Advancement of Learning. Speaking of astronomy, he says, "Astronomy, "such as now it is made, may well be counted in the number of "Mathematical Arts, not without great diminution of the dignity "thereof; seeing it ought rather (if it would maintain its own right) "be constituted a branch, and that most principal of Natural Phi-"losophy. For whoever shall reject the feigned divorces of super-"lunary and sublunary bodies; and shall intentively observe "the appetencies of matter, and the most universal passions, (which "in either globe are exceeding potent, and transverberate the uni-"versal nature of things) he shall receive clear information concern-"ing celestial matters from the things seen here with us: and "contrarywise from those motions which are practised in heaven; "he shall learn many observations which now are latent, touching "the motions of bodies here below: not only so far as these inferior "motions are moderated by superiour, but in regard they have a "mutual intercourse by passions common to them both." (See the mode by which Newton is said first to have thought of the influence of the laws of gravity.)

So, in another work, "Descriptio Globi Intellectualis," he says, "We must, however, openly profess, that our hope of discovering "the truth, with regard to the celestial bodies, depends not solely "upon such a history, raised after our own manner; but much more "upon the observation of the common properties, or the passions "and appetites of the matter of both globes. For as to the separa-"tion that is supposed betwixt the ætherial and sublunary bodies, "it seems to us no more than a fiction, and a degree of superstition, "mixed with rashness: for it is certain, that numerous effects, as "expansion, contraction, impression, yielding, collection, attraction, "repulsion, assimilation, union, and the like, have place, not only "here upon the surface, but also in the bowels of the earth, and "regions of the heavens. And no more faithful guide can be used "or consulted, than these properties of matter, to conduct the un-"derstanding to the depths of the earth, which are absolutely not "seen at all, and to the sublime regions of the heavens, which are "generally seen, but falsely; on account of their great distance, the "refraction of the air, the imperfection of glasses, &c. The ancients, "therefore, excellently represented Proteus as capable of various "shapes, and a most extraordinary prophet, who knew all things, "both the past, the future, and the secrets of the present. For he "who knows the universal properties of matter, and by that means "understands what may be, cannot but know what has been, is, and "shall be the general state and issue of things. Our chiefest hope "and dependance in the consideration of the celestial bodies, is "therefore placed in physical reasons; though not such as are com-"monly so called; but those laws, with regard to the appetites of "matter, which no diversity of place or region can abolish, break "through, disturb, or alter."

See also the fable of Proteus, in his wisdom of the ancients. See also the beginning of the tenth century of the Sylva Sylvarum; and in his Aphorisms concerning the composure of History, he says, "In "the history which we require, and purpose in our mind, above

"all things it must be looked after, that its extent be large, and "that it be made after the measure of the universe, for the world "ought not to be tyed into the straightness of the understanding "(which hitherto hath been done) but our intellect should be "stretched and widened, so as to be capable of the image of the "world, such as we find it; for the custom of respecting but a few "things, and passing sentence according to that paucity and scant-"ness hath spoiled all."

Upon the same principle, he says, I think in his history of Life and Death, "All tangible bodies contain a spirit covered over, enve-"loped with the grosser body. There is no known body, in the upper "parts of the earth, without its spirit; whether it be generated by the "attenuating and concocting power of the celestial warmth, or other-"wise: for the pores of tangible bodies are not a vacuum; but either "contain air, or the peculiar spirit of the substance, and this not a "vis, an energy, a soul, or a fiction; but a real, subtile, and invisible "body, circumscribed by place and dimension." "Such was the "language of Bacon two centuries ago; the same sentiments have "lately appeared in another form, in the works of one of our "modern poets.

"To every form of being is assigned
"An *active* principle howe'er remov'd
"From sense and observation, it subsists
"In all things, in all natures, in the stars
"Of azure heav'n, the unenduring clouds,
"In flower and tree, and every pebbly stone
"That paves the brooks, the stationary rocks,
"The moving waters and the invisible air.
"Whate'er exists hath properties that spread
"Beyond itself, communicating good,
"A simple blessing or with evil mixed:
"Spirit that knows no insulated spot,
"No chasm, no solitude, from link to link
"It circulates the soul of all the worlds."

Excursion, page 387.

NOTE F.

Referring to page x of Analysis.

To this tendency to hasty assent, which is one of the idols of the understanding, originating in a love of truth, (see *ante note* E) it may seem that Bacon ought to have traced the evils of credulity, which he has classed under Fantastical Learning, (page 41). Bacon, also says,

"The mind of man doth wonderfully endeavour and extremely "covet that it may not be pensile: but that it may light upon some-"thing fixed and immoveable, on which, as on a firmament, it may "support itself in its swift motions and disquisitions. Aristotle en-"deavours to prove that in all motions of bodies, there is some point "quiescent: and very elegantly expounds the fable of Atlas, who "stood fixed and bare up the heavens from falling, to be meant of "the poles of the world, whereupon the conversion is accomplished. "In like manner, men do earnestly seek to have some atlas or axis of "their cogitations within themselves, which may, in some measure, "moderate the fluctuations and wheelings of the understanding, "fearing it may be the falling of their heaven."

He says also,

"We are not so eager as to reap moss for corn: or the tender "blade for ears: but wait with patience the ripeness of the harvest."

And again,

"Beware of too forward maturation of knowledge, which makes "man bold and confident, and rather wants great proceeding than "causeth it."

"Such a rash impotency and intemperance doth possess and infa- "tuate the whole race of man: that they do not only presume upon "and promise to themselves what is repugnant in nature to be per- "formed: but also are confident that they are able to conquer, even "at their pleasure, and that by way of recreation, the most difficult "passages of nature without trouble or travail."

"Stay a little, that you may make an end the sooner," was a favourite maxim of Sir Nicholas Bacon.

In Locke's Conduct of the Understanding, there are some observations upon the evils of haste in the acquisition of knowledge, in departing from the old maxim that "the sinews of wisdom are slow- "ness of belief." So true it is,

"We must take root downwards, if we would bear fruit upwards: "if we would bear fruit and continue to bear fruit, when the foodful "plants that stand straight, only because they grew in company; or "whose slender service-roots owe their whole stedfastness to their "entanglement, have been beaten down by the continued rains, or "whirled aloft by the sudden hurricane."—*Coleridge.*

So true is it, that

"The advances of nature are gradual. They are scarce discern- "ible in their motions but only visible in their issue. Nobody "perceives the grass grow or the shadow move upon the dial till after "some time and leisure we reflect upon their progress."—*South.*

NOTE G.

Referring to page x of Analysis.

This peccant humour of learning "the delivering knowledge too "peremptorily, ought, it seems, to have been referred to delivery of "knowledge, where it is more copiously treated."—(See pages 199 and 200.

NOTE H.

Referring to page x of Analysis.

This most important part of the conduct of the understanding, a consideration of the motives by which we are actuated in the acquisition of knowledge may, as in this beautiful passage, and in other parts of Bacon's works, be separated into

1. A love of excelling.
2. A love of excellence.

Although the love of excelling is the motive by which in our public schools, and our universities, youth is stimulated, and is in the common world a very common motive of action, yet this intellectual gladiatorship does not and never did influence the noblest minds: it is only a temporary motive, and fosters bad passion. The love of excellence on the other hand, is powerful and permanent, and constantly generates good feeling. *That the love of excelling does not influence philosophy*, is an opinion so prevalent that, assuming it to be the motive by which men are generally induced to engage in public life, it has been urged by politicians as an objection to learning, "that it doth

"divert men's travails from action and business, and bringeth them "to a love of leisure and privateness."* The error of the supposition that the love of excelling can influence philosophy, may be seen in the nature of the passion, in the opinions of eminent moralists, and in the actions of those illustrious men, who, without suffering worldly distinctions to have precedence in their thoughts, are content without them, or with them, when following in the train of their duty.

With respect to the nature of the passion, it is difficult to suppose that it can influence any mind, which lets its hopes and fears wander towards future and far distant events. "If a man," says Bacon, "meditate much upon the universal frame of nature, the earth with "men upon it, (the divineness of souls except,) will not seem much "other than an ant-hill, where as some ants carry corn, and some "carry their young, and some go empty, and all to-and-fro a little "heap of dust." So says Bishop Taylor. "Whatsoever tempts the "pride and vanity of ambitious persons is not so big as the smallest "star which we see scattered in disorder and unregarded upon the "pavement and floor of heaven. And if we would suppose the Pis-"mires had but our understanding, they also would have the me-"thod of a man's greatness, and divide their little mole-hills into "provinces and exarchats: and if they also grew as vitious and as "miserable, one of their princes would lead an army out, and kill his "neighbour ants, that he might reign over the next handful of a "turf."

The same lesson may be taught by a moment's self-reflection.

"I shall entertain you," Bishop Taylor, in the preface to his Holy Dying, says, "in a Charnel-house, and carry your mediation "a while into the chambers of death, where you shall find the rooms "dressed up with melancholick arts, and fit to converse with your "most retired thoughts, which begin with a sigh, and proceed in "deep consideration, and end in a holy resolution. The sight that "St. Augustin most noted in that house of sorrow was the body of "Cæsar clothed with all the dishonours of corruption that you can "suppose in a six month's burial."

"I have read of a fair young German gentleman, who living, often "refused to be pictured, but put off the importunity of his friends "desire by giving way that after a few days burial, they might send a "painter to his vault, and, if they saw cause for it, draw the image "of his death unto the life. They did so, and found his face half "eaten, and his midriff and back-bone full of serpents; and so he "stands pictured amongst his armed Ancestours."

With respect to the opinions and actions of eminent men, Bacon says, "It is commonly found that men have views to fame and osten-"tation, sometimes in uttering, and sometimes in circulating the "knowledge they think they have acquired. But for our undertak-"ing, we judge it of such a nature, that it were highly unworthy to "pollute it with any degree of ambition or affectation; as it is an "unavoidable decree with us ever to retain our native candour and "simplicity, and not attempt a passage to truth under the conduct "of vanity; for, seeking real nature with all her fruits about her, we "should think it a betraying of our trust to infect such a subject "either with an ambitious, an ignorant, or any other faulty manner "of treating it."

* See page 14 of this work.

So John Milton says.

"I am not speaking to the mercenary crew of false pretenders to "learning, but the free and ingenuous sort of such as evidently were "born to study, and love learning for itself, not for lucre, or any "other end, but the service of God and of truth, and perhaps that "lasting fame and perpetuity of praise, which God and good men "have consented shall be the reward of those whose published la-"bours advance the good of mankind."

And Tucker, in his most valuable work on the Light of Nature pursued, in his chapter on vanity, says,

"We find in fact that the best and greatest men, those who have "done the most essential services to mankind, have been the most "free from the impulses of vanity. Lycurgus and Solon, those two "excellent lawgivers, appear to have had none: Socrates, the prime "apostle of reason, Euclid and Hippocrates, had none: whereas "Protagoras with his brother sophists, Diogenes, Epicurus, Lucre-"tius, the Stoics who were the higots, and the latter Academies who "were the freethinkers of antiquity, were overrun with it. And "among the moderns, Boyle, Newton, Locke, have made large im-"provements in the sciences without the aid of vanity; while some "others I could name, having drawn in copiously of that intoxicating "vapour, have laboured only to perplex and obscure them."

Thomas Carlysle, in his Life of Schiller, just published, says,

"The end of literature was not, in Schiller's judgment, to amuse "the idle, or to recreate the busy, by showy spectacles for the ima-"gination, or quaint paradoxes and epigrammatic disquisitions for "the understanding: least of all was it to gratify in any shape the "selfishness of its professors, to minister to their malignity, their "love of money, or even of fame. For persons who degrade it to "such purposes, the deepest contempt of which his kindly nature "could admit was at all times in store. 'Unhappy mortal!' says he "to the literary tradesman, the man who writes for gain, 'Unhappy "mortal! that with science and art, the noblest of all instruments, "effectest and attemptest nothing more, than the day drudge with "the meanest! That in the domain of perfect freedom bearest "about in thee the spirit of a slave!' As Schiller viewed it, genuine "literature includes the essence of philosophy, religion, art; what-"ever speaks to the immortal part of man. The daughter, she is "likewise the nurse of all that is spiritual and exalted in our cha-"racter. The boon she bestows is truth; truth not merely physical, "political, economical, such as the sensual man in us is perpetually "demanding, ever ready to reward, and likely in general to find; but "the truth of moral feeling, truth of taste, that inward truth in "its thousand modifications, which only the most etherial portion of "our nature can discern, but without which that portion of it lan-"guishes and dies, and we are left divested of our birthright, thence-"forward 'of the earth earthy', machines for earning and enjoying, "no longer worthy to be called the Sons of Heaven. The treasures "of literature are thus celestial, imperishable, beyond all price: with "her is the shrine of our best hopes, the palladium of pure manhood; "to be among the guardians and servants of this is the noblest func-"tion that can be entrusted to a mortal. Genius, even in its faintest "scintillations, is 'the inspired gift of God;' a solemn mandate to "its owner to go forth and labour in his sphere, to keep alive 'the "sacred fire' among his brethren, which the heavy and polluted at-

"mosphere of this world is for ever threatening to extinguish. Woe "to him if he neglect this mandate, if he hear not its small still "voice! Woe to him if he turn this inspired gift into the servant of "his evil or ignoble passions; if he offer it on the altar of vanity, if "he sell it for a piece of money!"

The most apparent extraordinary influence of ambition, which is but a form of the love of excelling, is in the conduct Lord Bacon in his political life, who appear to have been attracted by worldly distinction, although he well knew its emptiness, and well knew "how much it diverteth and interrupteth the prosecution and advance-"ment of knowledge, like unto the golden ball thrown before "Atalanta, which while she goeth aside and stoopeth to take up the "race is hindered."*

That Bacon's real inclination was for contemplation, appears in the following letters: "To my Lord Treasurer Burghley, (A. D. 1591). —"My lord, with as much confidence as mine own honest and faithful "devotion unto your service, and your honourable correspon-"dence unto me and my poor estate can breed in a man, do I "commend myself unto your Lordship. I wax now somewhat an-"cient; one and thirty years is a great deal of sand in the hour-glass. "My health, I thank God, I find confirmed; and I do not fear that "action shall impair it; because I account my ordinary course of "study and meditation to be more painful than most parts of "action are. I ever bear a mind, in some middle place that I "could discharge, to serve her Majesty; not as a man born under "Sol, that loveth honour; nor under Jupiter, that loveth business, "for the contemplative planet carrieth me away wholly: but as a "man born under an excellent Sovereign, that deserveth the dedi-"cation of all mens abilities. Besides I do not find in myself so "much self-love, but that the greater part of my thoughts are to de-"serve well, if I were able of my friends, and namely of your "Lordship; who being the Atlas of this commonwealth, the honour "of my house, and the second founder of my poor estate, I am tied "by all duties, both of a good patriot, and of an unworthy kins-"man, and of an obliged servant, to employ whatsoever I am, to do "you service. Again the meanness of my estate doth somewha-"move me: for though I cannot accuse myself, that I am either pro-"digal or slothful, yet my health is not to spend, nor my course to "get. Lastly, I confess that I have as vast contemplative ends as I "have moderate civil ends: for I have taken all knowledge to be my "province; and if I could purge it of two sorts of rovers, whereof "the one with frivolous disputations, confutations, and verbosities: "the other with blind experiments and auricular traditions, and "impostures, hath committed so many spoils; I hope I should bring "in industrious observations, grounded conclusions, and profitable "inventions and discoveries; the best state of that province. This, "whether it be curiosity, or vain-glory, or nature, or, if one take it "favourably, *philanthropia* is so fixed in my mind, as it cannot be re-"moved. And I do easily see, that place of any reasonable counte-"nance doth bring commandment of more wits than of a man's "own; which is the thing I greatly affect. And for your Lordship, "perhaps you shall not find more strength and less encounter in any "other. And if your Lordship shall find now or at any time, that I do

* See page 52 of this work.

"seek or affect any place, whereunto any that is nearer unto your Lordship shall be concurrent, say then that I am a most dishonest man. "And if your Lordship will not carry me on, I will not do as Anaxagoras did, who reduced himself with contemplation unto voluntary "poverty: but this I will do, I will sell the inheritance that I have, "and purchase some lease of quick revenue, or some office of gain, "that shall be executed by deputy, and so give over all care of service, and become some sorry book-maker, or a true pioneer in that "mine of truth, which, he said, lay so deep. This which I have writ "unto your Lordship, is rather thoughts than words, being set down "without all art, disguising, or reservation: wherein I have done "honour both to your Lordship's wisdom, in judging that that will "be best believed of your Lordship which is truest; and to your "Lordship's good nature, in retaining nothing from you. And "even so, I wish your Lordship all happines, and to myself means "and occasion to be added to my faithful desire to do your service." —From my lodging at Gray's-Inn.

"To the Lord Treasurer Burghley.—It may please your good "Lordship, I am to give you humble thanks for your favourable "opinion, which, by Mr. Secretary's report I find you conceive of "me, for the obtaining of a good place, which some of my honourable friends have wished unto me *nec opinanti*. I will use no reason "to persuade your Lordship's mediation, but this, that your Lordship, and my other friends, shall in this beg my life of the Queen; "for I see well the bar will be my bier, as I must and will use it, "rather than my poor estate or repuation shall decay."

"To my Lord of Essex.—For as for appetite, the waters of "Parnassus are not like the waters of the Spaw, that give a stomach; "but rather they quench appetite and desires."

A Letter of recommendation of his service to the Earl of Northumberland, a few days before Queen Elizabeth's death.—"To be plain with your Lordship it is very true, and no winds "or noises of civil matters can blow this out of my head or heart, "that your great capacity and love towards studies and contemplations of a higher and worthier nature, than popular, a nature "rare in the world, and in a person of your Lordship's quality almost singular, it is to me a great and chief motive to draw my "affection and admiration towards you."

"To Mr. Matthew."—Written as it seems when he had made progress in the Novum Organum, probably about 1609. "I must "confess my desire to be, that my writings should not court the "present time, or some few places, in such sort as might make them "either less general to persons, or less permanent in future ages. "As to the Instauration your so full approbation thereof I read with "much comfort, by how much more my heart is upon it; and by "how much less I expected consent and concurrence in a matter so "obscure. Of this I can assure you, that though many things of "great hope decay with youth, and multitude of civil businesses is "wont to diminish the price, though not the delight of contemplations yet the proceeding in that work doth gain with me upon "my affection and desire, both by years and businesses. And therefore I hope, even by this, that it is well pleasing to God, from "whom, and to whom, all good moves. To him I most heartily commend you."

"To Sir George Villiers, acknowledging the King's favour.—

"Sir, I am more and more bound unto his Majesty, who, I think, "knowing me to have other ends than ambition, is contented to make "me judge of mine own desires."

Such was Bacon's inclination: and if, instead of his needy circumstances, he had possessed the purse of a Prince, and the assistance of a people.* He

in the prime of early youth,
Would have shunned the broad way and the green,
And laboured up the hill of heavenly truth.

Upon the nature of ambition and great place it is scarcely possible to suppose that he could have entertained erroneous opinions. His sentiments are contained in his Essays on those subjects, and are incidentally mentioned in different parts of his works. He could not much respect a passion by which men, to use his own words, were—"Like a scaled dove, that mounts and mounts because he cannot see "about him." "As if," he says, "man, made for the contemplation "of heaven, and all noble objects, should doe nothing but kneel "before a little idol, and make himselfe subject, though not of the "mouth (as beasts are) yet of the eye, which was given him for "higher purposes." He must have contrasted the philosophic freedom of a studious life with the servile restraints of an ambitious life, who says—"Men in great place, are thrice servants: servants of the "soveraigne or state; servants of fame; and servants of businesse. So "as they have no freedome, neither in their persons; nor in their "actions; nor in their times. It is a strange desire to seeke power "and to lose liberty; to seeke power over others, and to lose "power over a mans selfe." He was not likely to form an erroneous estimate of different pleasures who knew that the great difference between men consisted in what they accepted and rejected. "The *logical* part of men's minds," he says, "is often good, but "the *mathematical* part nothing worth: that is, they can judge well "of the mode of attaining any end, but cannot estimate the "value of the end itself."—(See page 62 at the end.) But, notwithstanding his love of contemplation and his knowledge that the splendid speculations of genius are rarely united with that promptness in action or consistence in general conduct which is necessary for the immediate control of civil affairs, he was impelled by various causes to engage in active life. His necessities in youth: the importunities of his friends; the Queen encouraging him, "as her young Lord Keeper:" his sentiment that all men should be active, that man's motto should not be *abstine* but *sustine*: that in this theatre of man's life, God and angels only should be lookers on:† his opinion that he was actuated by the only lawful end of aspiring—"the power to do good,"‡ and the consciousness of his own supe-

* Such a collection of natural history," says Bacon, "as we have measured out in our mind, and such as really ought to be procured, is a great and royal work, requiring the purse of a prince and the assistance of a people."

† See his beautiful illustration in page 224 of this work.

‡ "Power to doe good, is the true and lawful end of aspiring. For good thoughts (though God accept them) yet towards men, are little better than good dreams: except they be put in act; and that cannot be without power, and place as the vantage, and commanding ground. Merit, and good works, is the end of man's motion; and conscience of the same, is the accomplishment of man's rest. For if a man be partaker of God's theatre; he shall likewise be partaker of God's rest."

riority by which he was hurried into the opinion that he could subdue all things under his feet* induced him to attempt the union of two not very reconcilable characters, the philosopher and the statesman,

Forth reaching to the fruit, he plucked, he eat,

and, after all the honours of his professions had been successively conferred upon him, in the year 1617, when he was fifty-seven years of age, the great seals were offered to him. Unmindful of the feebleness of his constitution; unmindful of his love of contemplation; unmindful of his own words: he in an evil hour accepted the offer. One of the consequences was, the sacrifice of his favourite work, upon which he had been engaged for thirty years, and had twelve times transcribed with his own hand. In his letter to the king, dated 16th October, 1620, and sent with the Novum Organum, he says: "The reason why I have published "it now specially, being imperfect, is, to speak plainly, because "I number my days and would have it saved." The same sentiment was expressed by him in the year 1607. "But time, in "the interim, being on the wing, and the author too much engaged "in civil affairs, especially considering the uncertainties of life, he "would willingly hasten to secure some part of his design from con-"tingencies." Another consequence was, the injury to his reputation; a subject upon which, although I hope at some future time to be more explicit, I cannot refrain from subjoining a few observations.

When the Chancellor first heard of the threatened attack upon him by the very Parliament, convened by his advice for the detection of abuses, he wrote to the House of Lords, requesting to be heard: and he thus wrote to the Marquis of Buckingham: —"Your lordship spoke of purgatory. I am now in it; but my "mind is in a calm, for my fortune is not my felicity; I know I have "clean hands, and a clean heart; and I hope a clean house for "friends, or servants. But Job himself, or whosoever was the "justest judge, by such hunting for matters against him, as hath "been used against me, may, for a time, seem foul, especially in a "time when greatness is the mark, and accusation is the game. "And if this be to be a Chancellor, I think, if the great seal lay "upon Hounslow Heath, nobody would take it up. But the king "and your lordship will, I hope, put an end to these my straits one "way or other." By what way the king and his lordship did put an end to these straits, is stated by Bushel in his old age, in the year 1659, thirty-three years after the death of the Chancellor. As the tract is very scarce, I subjoin the statement. "But before this "could be accomplished to his own content, there arose such "complaints against his lordship and the then favorite at court, "that for some days put the king to this query, whether he "should permit the favorite of his affection, or the oracle of "his council, to sink in his service; whereupon his lordship "was sent for by the king, who, after some discourse, gave him "this positive advice, to submit himself to his house of peers, "and that (upon his princely word) he would then restore him "again, if they (in their honors) should not be sensible of his "merits. Now though my lord foresaw his approaching ruin, and "told his majesty there was little hopes of mercy in a multitude,

* See page 10 of this work.

"when his enemies were to give fire, if he did not plead for himself; "yet such was his obedience to him from whom he had his being, "that he resolved his majesty's will should be his only law, and so "took leave of him with these words: 'Those that will strike your "chancellor, it's much to be feared will strike at your crown;' and "wished, that as he was then the first, so he might be the last of "sacrifices. Soon after (according to his majesty's commands) he "wrote a submissive letter to the house, and sent me to my Lord "Windsor to know the result, which I was loath, at my return, to "acquaint him with; for, alas! his sovereign's favour was not in "so high a measure, but he, like the phœnix, must be sacrificed in "flames of his own raising, and so perished, like Icarus, in that his "lofty design, the great revenue of his office being lost, and his "titles of honor saved but by the bishop's votes; whereunto he re-"plied, that he was only bound to thank his clergy; the thunder of "which fatal sentence did much perplex my troubled thoughts, as "well as others, to see that famous lord, who procured his majesty "to call this parliament, must be the first subject of this revenge-"ful wrath; and that so unparalleled a master should be thus "brought upon the public stage for the foolish miscarriages of his "own servants, whereof with grief of heart I confess myself to be "one. Yet shortly after the king dissolved the parliament, but never "restored that matchless lord to his place, which made him then "to wish the many years he had spent in state policy and law study "had been solely devoted to true philosophy: for, said he, the one "at best doth but comprehend man's frailty in its greatest splen-"dour, but the other the mysterious knowledge of all things "created in the six days' work." That there was a private interview between the chancellor and the king, thus appears from the journals of the House of Lords, 17th April, 1621. "The lord treasurer signified, that in the interim of this cessation, the lord chancellor was an humble suitor unto his majesty, that he might see his majesty, and speak with him; and although his majesty, in respect of the lord chancellor's person, and of the place he holds, might have given his lordship that favour, yet, for that his lordship is under trial of this house, his majesty would not on the sudden grant it. That on Sunday last, the king calling all the lords of this house which were of his council before him, it pleased his majesty to shew their lordships, what was desired by the lord chancellor, demanding their lordship's advice therein. The lords did not presume to advise his majesty; for that his majesty did suddenly propound such a course as all the world could not devise better, which was that his majesty would speak with him privately. That yesterday, his majesty admitting the lord chancellor to his presence, &c. It was thereupon ordered, That the lord treasurer should signify unto his majesty, that the lords do thankfully acknowledge that his majesty's favour, and hold themselves highly bound unto his majesty for the same." In the morning of the 24th of April, a few days after this interview the king was present in the House of Lords, commended the complaint of all public grievances, and protested, that he would prefer no person whomsoever before the public good; and, in the evening of the same day, the Prince of Wales signified to the lords, that the Lord Chancellor had sent a submission — The sentence was passed. The king remitted all which it was in his power to pardon. That the time would arrive when it would be

proper to investigate the whole nature of these proceedings, Bacon foresaw.—In a paper written in November, 1622, in Greek characters, and found amongst his papers he says, "Of my offences, far "be it from me to say, Dat veniam corvis, vexat censura columbas: but I will say what I have good warrant for, they were not the "greatest offenders in Israel, upon whom the wall of Shilo fell:" And in his will, after desiring to be buried by his mother, he says, "For my name and memory I leave it to men's charitable speeches, and to foreign nations and the next ages." It is hoped that documents are now in existence, by which the whole of this transaction may, without impropriety, be elucidated. It seems that, from the intimacy between Archbishop Tennison and Dr. Rawley, the chancellor's chaplain and secretary, all the facts were known to the Archbishop, who published his Baconiana in the year 1679, "too near to the heels of truth and to the times of "the persons concerned;" in which he says, "His lordship owned "it under his hand, 'that he was frail and did partake of the "abuses of the times.' And surely he was a partaker of their seve-"rities also. The great cause of his suffering is to some a secret. I "leave them to find it out by his words to King James. 'I wish, "as I am the first, so I may be the last sacrifice in your times, and, "when from private appetite it is resolved, that a creature shall be "sacrificed, it is easy to pick up sticks enough from any thicket, "whither it hath strayed, to make a fire to offer it with." At present I shall only add, that when upon his being accused, he was told it was time to look about him, he said, "I do not look about "me, I look above me," and when he was condemned, and his servants rose upon his passing through the gallery, "Sit down, "my friends," he said, "your rise has been my fall."

That the *love of excelling is only a temporary motive for the acquisition of knowledge*, may as easily be demonstrated: when the object is gained, or the certainty of failure discovered, what motive is there for exertion? What worlds are there to conquer? "Sed quid ego hæc, quæ cupio "deponere et toto animo atque omni curâ φιλοσοφειν. Sic inquam "in animo est. Vellem ab initio;" are the words of Cicero. "Indeed, my Lord, I greatly deceive myself, if in this hard season I "would give a peck of refuse wheat for all that is called fame and "honour in the world," are the words of Burke. Milton in his tract on Education speaking of young men when they quit the universities. "Now on the sudden transported under another climate to be "tossed and turmoiled with their unballasted wits in fathomless and "unquiet deeps of controversy, do for the most part grow into hatred "and contempt of learning, mocked and deluded all this while with "ragged notions and babblements, while they expected worthy and "delightful knowledge; till poverty or youthful years call them im-"portunately their several ways, and hasten them with the sway of "friends either to an ambitious and mercenary, or ignorantly zealous "divinity; some allured to the trade of law, grounding their pur-"poses not on the prudent and heavenly contemplation of justice "and equity, which was never taught them, but on the promising and "pleasing thoughts of litigious terms, fat contentions and flowing "fees; others betake them to state affairs, with souls so unprin-"cipled in virtue and true generous breeding, that flattery and court-"shifts and tyrannous aphorisms appear to them the highest points "of wisdom; instilling their barren hearts with a conscientious

"slavery; if, as I rather think, it be not feigned. *Others, lastly,* of "a more delicious and airy spirit, retire themselves, (knowing no "better) to the enjoyments of ease and luxury, living out their days "in feast and jollity; *which indeed is the wisest and the safest* "course of all these, unless they were with more integrity under-"taken. And these are the errours, and these are the fruits of mis-"pending *our prime youth* at the schools and universities as we do, "either in learning mere words, or such things chiefly as were better "unlearned."

That the love of excelling has a tendency to generate bad feeling, is as easily demonstrated. Tucker says, "This passion always chooses "to *move alone in a narrow* sphere, where nothing noble or "important can be achieved, rather than join with others in "moving mighty engines, by which *much good might* be effected. "Where did ambition ever glow more intensely than in Cæsar? "whose favourite saying, we are told, was, that he would rather "be *the first man in a petty village than* the second in Rome. Did "not Alexander, another madman of the same kind, reprove his tutor "Aristotle for publishing to the world those discoveries *in philosophy* "he would have had reserved for himself alone? "Nero," says Plutarch, "put the fidlers to death, for being more skilful in the trade "than he was.' *Dionysius, the elder, was so angry* at Philoxenus for "singing, and with Plato for disputing better than he did, that he "sold Plato a slave to Ægina, and condemned *Philoxenus to the quar*-"ries." *In illustration of* this doctrine I cannot refrain from sub-joining an anecdote which explains the whole of this morbid feeling. "A collector of shells gave *thirty-six guineas for* a shell: the "instant he paid the money, he threw the shell upon the hearth, and "dashed it into a thousand pieces: 'I have now,' said he 'the *only*, "*specimen in England.*'"

The love of excelling, has however, its uses. It leads "to that por-"tion of knowledge for which *it operates.*

"The spur is powerful, and I grant its force;
"It pricks the genius forward in his course,
"*Allows short time for play,* and none for sloth,
"And, felt alike by each, advances both—"

"and is attended with *the chance of generating a habit to acquire* "knowledge, which may continue when the motives themselves have "ceased to act. It is a bait for pride, which, when *seized,* may "*sink into the affections.*"

Such is the nature of the love of excelling. The love of excel-lence, on the other hand, *produced the* Paradise Lost: the Eccle-siastical Polity, and the Novum Organum. It influenced Newton, and Descartes, and Hooker, and Bacon. *It* has ever *permanently* influenced, and *will ever* permanently influence the noblest minds, and has ever generated, and will ever generate good feeling. "We see," says Bacon, "in all *other pleasures* there is a satiety, "*and after they* be used, their verdure departeth: which sheweth well "they be but deceits of pleasure, and not pleasures: and therefore we "see that voluptuous *men turn friars,* and ambitious princes turn "melancholy: but of knowledge there is no satiety; but satisfaction "and appetite are perpetually interchangeable, *and therefore* ap-"pearth *to be good* in itself simply without fallacy or accident." "I have," says Burke, "through life been willing to *give* every "thing to others and *to reserve* nothing to myself, but the inward

"conscience that I have omitted no pains to discover, to animate, "to discipline, to direct the abilities of the country for its service, "and to place them in the best light to improve their age, or to adorn "it. This conscience I have. I have never suppressed any man; "never checked him for a moment in his course, by any jealousy, "any policy. I was always ready to the height of my means (and "they were always infinitely below my desires) to forward those abi-"lities which overpowered my own." And so Pæderatus. "Being "left out of the election of the number of the 300, said, 'It does "me good to see there are 300 found better in the city than myself.'"

If any reader of this note conceive that education cannot be conducted without the influence of this motive, he will find the subject most ably investigated in the chapter on Vanity in Tucker's Light of Nature:—and if he imagine that this doctrine is injurious, he may be satisfied that there never will be wanting men to fill up the niches of society. "These things will continue as they have been: but so "will that also continue whereupon learning hath ever relied, and "which faileth not: 'Justificata est sapientia a filiis suis.'" And if he imagine that this doctrine will deter elevation of mind from engaging in worldly pursuit, let him read Bacon's refutation of the conceit that learning should dispose men to leisure and privateness,* and his admonition that we should direct our strength against nature herself, and take her high towers and dismantle her fortified holds, and thus enlarge the borders of man's dominion as far as Almighty God of his goodness shall permit.

NOTE I.

Referring to page xii of Analysis.

In page 176 of this work may be found Bacon's observations upon the importance of invention: upon which the considerations seem to be:

1. The Utility of Inventions.

"Let any one consider what a difference there is betwixt the life led in any polite province of Europe, and in the savage and barbarous parts of the world; and he will find it so great that one man may deservedly seem a god to another, not only on account of greater helps and advantages, but also upon a comparison of the two conditions; and this difference is not owing to the soil, the air, or bodily constitution, but to arts."

2. Utility of an art of invention.

"If some large obelisk were to be raised, would it not seem a kind of madness for men to set about it with their naked hands? and would it not be greater madness still to increase the number of such naked labourers, in confidence of effecting the thing? and were it not a further step in lunacy, to pick out the weaker bodied, and use only the robust and strong; as if they would certainly do? but if, not content with this, recourse should be had to anointing the limbs, according to the art of the ancient wrestlers, and then all begin afresh, would not this be raving with reason? Yet this is but like the wild and fruitless procedure of mankind in intellectuals; whilst they expect great things from multitude and consent; or the excellence and penetration of capacity; or strengthen, as it were, the sinews of the mind with logic. And yet, for all this absurd bustle

* See page 19 of this work.

and struggle, men still continue to work with their naked understandings."

The object of the Novum Organum is to explain the nature of the art of invention.

3. *The high estimation of inventors.*

In addition to the passage to which this note is appended, there is another similar passage, I believe, in the Novum Organum.

"The introduction of noble inventions seems to hold by far the "most excellent place among all human actions. And this was the "judgement of antiquity, *which attributed divine honours to inventors*, but conferred only heroical honours upon those who deserved "well in civil affairs, such as the founders of empires, *legislators*, "and *deliverers of their country*. And whoever rightly considers it, "will find this a judicious custom in former ages, since the benefits "of inventors may extend to *all mankind, but civil benefits only to* "particular countries, or seats of men; and these civil benefits seldom descend to more than a few ages, whereas inventions are perpetuated *through the course of time*. Besides, a state is seldom "amended in its civil affairs, without force and perturbation, whilst "inventions spread their advantage, without doing *injury*, or causing "disturbance."

See also in page 377 of this work, where Bacon speaks in his new Atlantis of the respect *due to inventors: the passage* beginning with the words "we have two very long and fair galleries."

4. The art of inventing arts and sciences is deficient.

See page 176 of this work.

NOTE L.

Referring to page xv of Analysis.

The power of man is his means to attain any end. "Archimedes "by his knowledge of optics was enabled to *burn the Roman fleet* "before Syracuse, and baffle the unceasing efforts of Marcellus to "take the town. An Athenian admiral delayed till evening to "attack, on the *coast of Attica, a Lacedemonian fleet*, which was "disposed in a circle, because he knew that an evening breeze always "sprung up from the land. The breeze arose, the circle was *disordered*, and at that instant he made his onset. The Athenian captives, by repeating the strains of Euripides, were enabled to charm "their masters into *a grant of their* liberty."

NOTE M.

Referring to page xviii of Analysis.

See page 373 of this volume relating to the houses of experiments in the new Atlantis.

At the time I am writing *this note, a proposal* has just been published for the formation of an university in Yorkshire, and another proposal for the formation of an university in London: and I please myself *with the consciousness* of the good which must result from the agitation of this question, in the age in which we are so fortunate to live. London is, perhaps, except *Madrid, the only capital in Europe*, without an university. Why is such an institution expedient in Edinburgh and Dublin, and inexpedient in the capital in England? *Lord Bacon thought*, in the year 1620, that from the constitution of our universities they opposed the advancement of

learning. He says, "In the customs and institutions of schools, "universities, colleges, and the like conventions, destined for the "seats of learned men and the promotion of knowledge, all things "are found opposite to the advancement of the sciences; for the "readings and exercises are here so managed, that it cannot easily "come into any one's mind to think of things out of the common "road. Or if here and there one should venture to use a liberty of "judging, he can only impose the task upon himself, without obtain-"ing assistance from his fellows; and if he could dispense with this, "he will still find his industry and resolution a great hindrance to "the raising of his fortune. For the studies of men in such places "are confined, and pinned down to the writings of certain authors; "from which, if any man happens to differ, he is presently repre-"hended as a disturber and innovator. But there is surely a great "difference between arts and civil affairs; for the danger is not the "same from new light, as from new commotions. In civil affairs, it "is true, a change even for the letter is suspected, through fear of "disturbance; because these affairs depend upon authority, consent, "reputation, and opinion, and not upon demonstration: But arts "and sciences should be like mines, resounding on all sides with "new works, and farther progress. And thus it ought to be, accord-"ing to right reason; but the case, in fact, is quite otherwise. For "the above-mentioned administration and policy of schools and uni-"versities, generally opposes and greatly prevents the improvement "of the sciences."

Whether these observations made by Bacon, in 1620, are to any and what extent applicable to the year 1820, I know not: but I have been informed that the anxiety for improvement, for which this age is distinguished, has extended to the university of Cambridge: that it has already beautified the buildings; and that an enquirer may now safely consider whether the compendia and calculations of moral and political philosophy which are to be found in the university manuals, are best calculated to form high national sentiments.

There is scarcely any subject of more importance than the subject of universities. So Bacon thought. In this note, I had intended to have collected his scattered opinions, and to have investigated various questions respecting universities; but, as this volume has exceeded its limits, I must reserve these considerations for the same passage in the treatise "De Augmentis," where I hope to examine

1. The uses of universities.
    1. The preservation and propagation of existing knowledge.
    2. The formation of virtuous habits in youth.
    3. The discovery of unexplored truths.
2. The situation of universities.
3. The buildings.
    1. Libraries.
        1. General.
        2. Particular.
            1. Law.
            2. Medical, &c.
    2. Scientific houses.
        1. Mathematical houses.
        2. Chemical houses.
        3. Houses for fine arts, &c.

4. Collections of natural history.
    1. Animals.
    2. Vegetables.
    3. Minerals.
5. Collections of arts.
    1. Patents.
    2. Mathematical arts.
    3. Fine arts.
        1. Engravings.
        2. Paintings.
        3. Sculpture.
6. Lectures.
7. Defects of universities.

At present I must content myself with expressing my anxious hope that the project for a metropolitan university will (as it will sooner or later) be realized, and that the enquirers for knowledge will not be under the present necessity of attending for information at the different taverns in the different parts of this city: at Willis's Rooms, and at the London Tavern, and at the Crown and Anchor in the Strand, and the Paul's Head Cateaton Street, where lectures, numerously attended, are now delivered upon different parts of natural and human philosophy.

Query 1. As a tree is for some dimension and space entire and continued before it breaks and parts itself into arms and boughs, ought there not to be lectures upon such general subjects as will be applicable to men in all states of society: upon

1. Man as an individual.
    1. The laws of health.
    2. The passions, including all our different pleasures.
    3. The understanding.
2. Man in society.
    1. The general principles of law.
    2. The general principles of politics, political economy.
    &c. &c.

Query 2. As the British Museum contains a noble library, a collection of natural history, of sculpture, and of paintings: as the buildings are rapidly advancing, and as it has been intimated that a street is to be opened from the museum to Waterloo bridge, could this establishment be of any and what use to such an institution?

NOTE N.

Referring to page xviii of Analysis.

John Milton in his tract on education, says, "That which casts "our proficiency therein so much behind, is our time lost partly in "too oft idle vacancies given both to schools and universities: "partly in a preposterous exaction, forcing the empty wits of "children to compose themes, verses, and orations, which are the "acts of ripest judgment, and the final work of a head filled by "long reading and observing, with elegant maxims and copious in-"vention. These are not matters to be wrung from poor striplings, "like blood flowing out of the nose, or the plucking of untimely "fruit; besides the ill habit which they get of wretched barbarizing "against the Latin and Greek idioms, with their untutored Angli-"cisms, odious to read, yet not to be avoided without a well con-

"tinued and judicious conversing among the pure authors digested, "which they scarce taste." "I deem it to be an old errour of uni-"versities, not well recovered from scholastic grossness of barbarous "ages, that instead of beginning with arts most easy, (and those be "such as are most obvious to the sense,) they present their young "unmatriculated novices at first coming with the most intellective "abstractions of logic and methaphysics."

Cicero, says Middleton, made it his constant care that the progress of his knowledge should keep pace with the improvement of his eloquence. He considered the one as the foundation of the other, and thought it in vain to acquire ornaments before he had provided necessary furniture.

I subjoin the following observations from a MS. in my possession; by whom it was written I know not:—

"The defects here noted in the universities seem to have cured "themselves. Logic, by the supineness of teachers, and indolence "of pupils, having become a mere dead letter: nothing however has "been properly substituted in its place, and the crude, hasty, and "injudicious method in which mathematics are taught in one uni-"versity, seems little preferable to the absolute neglect of them in "the other. In both the genuine sources of information, the antient "writers have been too much neglected, and from the same neglect "has proceeded the downfall of logic, as well as mathematics. Since "neither in the first is Aristotle, or his purest Greek commentators, "Simplicius and Philopinus regarded; nor in the latter have the "elegant inventions recorded in Pappus and Archimedes, the Analytical "restitutions which Vieta and Halley have given from Apollonius, the "genuine conic geometry of the same author, the spherics of "Theodosius and Menceaus, the remains of Theon and Eutocius, "of Eratosthenes and Hero, been sufficiently attended, to which, "and to the successful use of the new methods of calculus, it has "happened that mathematics as they are now cultivated have much "departed from that perspicuity and evidence which ought always to "be their character.

"I make it therefore a desideratum that the use and effect of the "antient Analysis be well considered both in plane and solid pro-"blems, since it is certain that its use did extend very far among the "antients, and the restitution of it would very much improve the "construction of problems, which are always less perspicuously, "many times less easily treated by common Algebra.

"Something of this kind, though not generally known, is to be "found in an unpublished MS. of Sir Isaac Newton, de Geometriâ "libri tres, great part of which is perfect.

"The true theory of the Porisms, imperfectly found in Pappus, "given up as unintelligible by Halley, inadequately attempted by the "acute Fermat, and laboured with much unavailing industry by "Rob. Simson, may be said to be at last completely ascertained "by Professor Playfair of Edinburgh."

NOTE O.

Referring to page xx of Analysis.

Bacon arranges the History of Arts as a species of Natural History. This subject is much improved in the treatise "De Augmentis," where he states his reasons for this arrangement, (See

chap. 2. book 2. De Aug.) saying, "We are the rather induced to "assign the History of Arts, as a branch of Natural History, because "an opinion hath long time gone current, as if *art* were some different "thing from *nature*, and *artificial* from *natural*." The same sentiment is expressed both by Sir Thomas Brown and by Shakspeare. Brown says, "Nature is not at variance with art; nor art with nature: they "being *both the servants of* the Providence of God. Art is the per-"fection of nature: were the world now as it was the sixth day, "there were yet a chaos. *Nature hath made one world, and art* "another. In brief, all things are artificial: for, nature is the art "of God."

So Shakspeare says,

"*Perdita*. For I have heard it said,
"There is an art, which in their piedness shares
"With great creating nature.
"*Pol*. Say there be,
"Yet nature is *made better by no mean*,
"But nature makes that mean;
"So over that art, which you say adds to nature,
"Is an art that nature makes; you see, sweet maid,
"We marry a gentle scyon to the wildest stock,
"And make conceive a *bark of baser* kind
"By bud of nobler race. This is an art,
"Which does mend nature, change it rather; but
"The *art itself is nature*."

NOTE O.

Referring to page xxxi of Analysis.

This note is referred to the treatise *De Augmentis*.

NOTE P.

Referring to page xliii of Analysis.

See as to the nature of credulity under Phantastical Learning, ante page viii of Analysis, and page 42 of this work. See also Nov. Org. Ap. 9.

"The mind has the peculiar and constant error of being more "moved and excited by affirmatives than by negatives, whereas it "should duly and equally yield to both. But, on the contrary, in "the raising of true axioms, negative *instances have the greatest* "force.

"The mind of man, if a thing have once been existent, and held "good, receives a deeper impresssion thereof, than if the same thing "far more often failed and fell out otherwise: which is the root, as "it were, of all superstition and vain credulity."

Bacon, in his experiments respecting antipathy in his Sylva Sylvarum, speaking of "the supposed sympathies between per-sons at distant places, says, "*it is true* that they may hold in these "things which is the general root of superstition, namely that men "observe when things hit, and not when they miss: and commit to "memory the one, and *forget* and pass over the other."

NOTE Q.

Referring to page xliii of Analysis.

"The spirit of man pre-supposes and feigns *a greater equality*

"and uniformity in nature than in truth there is. Hence that fiction "of the mathematicians that in the heavenly bodies all is moved by "perfect circles, rejecting spiral lines. So it comes to pass that "whereas there are many things in nature, as it were, monodica and "full of imparity: yet the conceits of men still feign and frame unto "themselves relatives; parallels and conjugates: for upon this ground "the element of fire and its orb is brought in to keep square with "the other three, earth, water, air. The chemists have set out a "fanatical squadron of words, feigning by a most vain conceit in "these their four elements (heaven, air, water and earth) there are to "be found to every one parallel and uniform species."

"As the northern part of the earth was supposed to be a hemis-"phere, the southern part was assumed to be of the same form.

"Bacon says, 'In the structure of the universe the motion of "living creatures is generally performed by quadruple limits or "flexures: as the fins of fish; the feet of quadrupeds; and the "feet and wings of fowl."—To which Aristotle adds, "the four "wreaths of serpents.'

"That produce increases in an arithmetic and population in a "geometric ratio, is a position which seems to partake of the love "of uniformity."

See Novum Organum, Aph. 45.

NOTE R.

Referring to page xliii of Analysis.

Bacon's doctrine of idols of the understanding is more fully explained in the beginning of the Novum Organum, where these idols or tendencies of the mind to be warped from the truth are investigated and deprecated. He then explains, that if these idols once take root in the mind, truth will hardly find entrance, or if it do, that it will be choaked and destroyed, and he warns us that "Idols are to be "solemnly and for ever renounced, that the understanding may be "thereby purged and cleansed; for the kingdom of man, which is "founded in the sciences, can scarce be entered otherwise than the "kingdom of God, that is, in the condition of little children."

And in his introduction to the just method of compiling history, he says; "If we have any humility towards the Creator; if we have any "reverence and esteem of his works; if we have any charity towards "men, or any desire of relieving their miseries and necessities; if "we have any love for natural truths; any aversion to darkness; and "any desire of purifying the understanding; mankind are to be most "affectionately intreated, and beseeched, to lay aside, at least for a "while, their preposterous, fantastick and hypothetical philosophies, "which have led experience captive, and childishly triumphed over "the works of God; and now at length condescend, with due sub-"mission and veneration, to approach and peruse the volume of "the Creation; dwell some time upon it; and, bringing to the "work a mind well purged of opinions, idols and false notions, "converse familiarly therein. This volume is the language which "has gone out to all the ends of the earth, unaffected by the con-"fusion of Babel; this is the language that men should thoroughly "learn, and not disdain to have its alphabet perpetually in their "hands: and in the interpretation of this language they should "spare no pains; but strenuously proceed persevere and dwell upon "it to the last."

Bacon having explained the general nature of idols, and demonstrated the importance of destroying them, divides them into four sorts: but they seem to be reducible to two, which may be thus exhibited.

1. General. { 1. Of the tribe. 2. Of the market.
2. Particular. { 1. Of the den. 2. Of the theatre.

"Speaking of Idols of the *Tribe*, he says, '*There are certain* "predispositions which beset the mind of man: certain idols which "are constantly operating upon the mind and warping it from the "truth; *the mind of man, drawn over* and clouded with the sable "pavilion of the body, is so far from being like a smooth, equal "and clear glass, which might sincerely take and reflect the beams "of things according to their true incidence, that it is rather like "an enchanted glass full of superstitions and impostures.'"

Having explained the *nature of some of the* "Idols of the Tribe," he explains the "Idols of the Den," or those prejudices which result from the false appearances imposed by every man's own peculiar nature and *custom*. "We every one of us have our particular den or "cavern which refracts and corrupts the light of nature, either be-"cause every man has his respective *temper, education*, acquaintance, "course of reading and authorities, or from the difference of im-"pressions, as they happen in a mind prejudiced or prepossessed, or "in one *that is calm and equal*. The faculties of some men are "confined to poetry: of some to mathematics: of some to morals: of "some to metaphysics. The schoolmaster, *the lawyer*, the physician, "have their several and peculiar ways of observing nature."

NOTE S.

Referring to page xliii of Analysis.—See the last Note.

The prejudices from words are what Bacon calls, "idols of the "market," which are fully *explained in* the Novum Organum, where there is an expansion of the following doctrine.

"There are also idols that have their rise, as it were, from com-"pact, and the association of mankind; which, on account of the "commerce and dealings that men have with one another, we call "idols of the market. *For men associate* by discourse, but words "are imposed according to the capacity of the vulgar; whence a "false and improper imposition of words strangely possesses the "understanding. Nor do the definitions and explanations wherewith "men of learning in some cases defend and vindicate themselves, any "way repair the injury; *for words absolutely* force the understand-"ing, put all things in confusion, and lead men away to idle contro-"versies and subtleties without number."

This important *subject is investigated* in the Novum Organum, where the different defects of words are explained.

NOTE T.

Referring to page xliv of Analysis.

This important subject of memory is investigated *in the Novum Organum, under the head of* "Constituent Instances," and may be thus exhibited.

- I. The art of making strong impressions.
  - 1. The state of the mind *of the patient.*
    - 1. When the mind is free.
    - 2. When the mind is agitated.
  - 2. By the conduct *of the agent.*
    - 1. Variety of impression.
    - 2. Slowness of Impression.
- II. The art of recalling a given impression.
  - 1. Cutting off infinity.
    - 1. Order.
    - 2. Places for artificial memory.
    - 3. Technical memory.
  - 2. Reducing intellectual to sensible things."

That impressions are strongly made when the mind is free and disengaged, may appear from the permanent impressions made in early life, which often remain in old age, when all intermediate impressions are forgotten.

That impressions may be strongly made when the mind is influenced by passion, may be illustrated by the following anecdote, from the Life of Benvenuto Cellini, who says, "My father happened to be in a little "room in which they had been washing, and where there was a good "fire of oak burning, with a fiddle in his hand he sang and played "near the fire; the weather being exceeding cold, he looked at this "time into the flames and saw a little animal resembling a lizard, "which could live in the hottest part of that element: instantly per-"ceiving what it was, he called for my sister, and, after he had shown "us the creature, he gave me a box of the ear: I fell a crying, while "he soothing me with his caresses, spoke these words, 'My dear "child, I don't give you that box for any fault you have com-"mitted, but that you may recollect that this little creature which "you see in the fire, is a salamander.'" Instances of the same nature occur daily, of which one of the most common and practical is the custom, when boys walk the boundaries of parishes, for the officer to strike the boy, that he may remember in old age the boundery which he walked; so that Bacon's doctrine seems to be well founded, that these things which make an impression by means of strong affection or passion assist the memory. The mind when disturbed, being, for this purpose, free from the same cause, the exclusion of all thought but the predominant passion.

That strong impressions are produced by a variety of circumstances, appears by "proving the same geometrical proposition by different forms of "proofs, as algebraic and geometric, &c. Reading the same several "truths in prose and in verse, and in different styles in each, &c."

That impressions ought not to be too hastily made, may be inferred from the old adage, that: "*great wits have short memories.*"

With respect *to cutting of infinity,* or what Bacon terms, "the limita-"tion of an indefinite seeking to an inquiry within a narrow compass."

The first mode is, he says, by *order or distribution;* the second by *places for artificial memory;* which he says, "May either be places in a proper sense, as a door, a window, a corner, &c., or familiar and "known persons, or any known persons, or any other things "at pleasure: provided they be placed in a certain order, as "animals, plants, words, letters, characters, historical personages, "&c., though some of these are more, and some less fit for the

"purpose. But such kind of places greatly help the memory, "and raise it far above its natural powers." And we are told by Aubrey, that Lord Bacon's practice corresponded with his theory; for "In his description of Lord Bacon's house at Gorhambury, "he says, 'Over this portico is a stately gallery, where glass windows "are all painted: and every pane with several figures of beast, bird, "or flower: perhaps his lordship might use them as topics for local "memory.'"

The third mode is, he says, by technical memory, of which there are an infinite number of modes, not very highly prized by Bacon, (see page 195 of this work), of which old Fuller says, "It "is rather a trick than an art, and more for the gain of the "teacher than profit of the learners. Like the tossing of a pike, "which is no part of the postures and motions thereof, and is rather "ostentation than use, to show the strength and nimbleness of the "arm, and is often used by wandering soldiers as an introduction to "beg. Understand it of the artificial rules which at this day are de-"livered by the memory mountebanks: for sure an art therefore "may be made (wherein as yet the world may be defective), and that "no more destructive to natural memory than spectacles are to the "eyes, which girls in Holland wear from twelve years of age."

With respect to *the reduction of intellectual to sensible things*, Bacon is more copious in his treatise "De Augmentis, where he says, "What is presented to the senses strikes more forcibly than "what is presented to the intellect. The image of a huntsman "pursuing a hare; or an apothecary putting his boxes in order; or "a man making a speech; or a boy reciting verses by heart; or an "actor upon the stage, are more easily remembered than the notions "of invention—disposition—elocution—memory—and action."

NOTE U.

Referring to page lxvii of Analysis.

This seed has, for the last two centuries, been apparently not really dormant. It has, during this interval, been softening and expanding, and has lately appeared above the surface. By the labours of foreign authors, from Montesquieu to the benevolent Beccarria, and of various philosophers and political economists in this island, and, above all, of Jeremy Bentham, it is beginning to be admitted that "law is a science," and that "pour diriger les mouvemens de la pouppée humaine, il faudroit connoitre les fils qui la meuvent." Commerce has already felt the influence of these opinions, the injurious restraints, by which its freedom was shackled, are moulder-ing away: and the lesson taught 2000 years ago, of forgiveness of debtors, has, after the unremitted exertions of philosophy during this long period, been lately sanctioned by the legislature. It is now no longer contended that the counting-house has any alliance with the jail, or that a man should be judge in his own cause, and assign the punishment of his own pain. These errors have passed away. In the first year of the reign of his present Majesty, arbitrary imprisonment for debt, was abolished by the establishment of the Insolvent Court. The same influence has extended to our criminal law. The restraints upon conscience are gradually declining: and the punishment of death is receding within its proper limits, which it has for years exceeded, by the erroneous notion, that the power of a law varied not inversely but directly as the opinion of its severity.

Twenty years have scarcely passed away since Sir Samuel Romilly first proposed the mitigation of the punishment of death. His proposal was met in the English parliament as disrespectful to the judges, and an innovation by which crime would be increased, and the constitution endangered. During the excesses of the French revolution, the prudence of this country stood upon the old ways, dreading the very name of change; but these fears no longer exist: timidity is finding its level, and, instead of being perplexed by fear of change, our intellectual government encourages improvement, which, thus fostered, is now moving upon the whole island. In the same first year of the reign of his present Majesty, the following laws were enacted: An Act, to repeal so much of the several Acts passed in the thirty-ninth year of the reign of Elizabeth, the fourth of George I., the fifth and eighth of George II. as inflicts capital punishments on certain offences therein specified, and to provide more suitable and effectual punishment for such offences.

An Act to repeal so much of the several Acts passed in the first and second years of the reign of Phillip and Mary, the eighteenth of Charles II., the ninth of George I., and the twelfth of George II. as inflicts capital punishment on certain offences therein specified. An Act to repeal so much of an Act passed in the tenth and eleventh years of King William III., intituled, An Act for the better apprehending, prosecuting, and punishing of felons, that commit burglary, house-breaking, or robbery, in shops, ware-houses, coach-houses, or stables, or that steal horses, as takes away the benefit of clergy from persons privately stealing in any shop, ware-house, coach-house, or stable, any goods, wares, or merchandises, of the value of 5s., and for more effectually preventing the crime of stealing privately in shops, ware-houses, coach-houses, or stables.

May we not hope that during the next fifty years more progress will be made in sound legislation, than for some preceding centuries? and may we not ascribe these improvements partly to the exertions of this great philosopher, who, in his dedication of the Novum Organum to King James, says, "I shall, perhaps, when I am dead, hold "out a light to posterity, by this new torch set up in the obscurity of "philosophy."

NOTE 3 Z.

Referring to page 319 of the body of the work.

There have been various editions of the New Atlantis. In 1631, it was translated into French, of which there is a copy in the British Museum; where there is also the New Atlantis continued A. D. 1660, by R. H. Esq. wherein is set forth a platform of monarchical government: and also in French, A. D. 1702, avec des reflexions sur l' institution et les occupations des academies, &c. par M. R.

INDEX.

END OF THE SECOND VOLUME.

Thomas White, Printer,
Johnson's Court.