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THOUGHTS,
PHILOSOPHICAL AND MEDICAL,

SELECTED FROM THE WORKS OF

FRANCIS BACON:

WITH

AN ESSAY

ON HIS

HEALTH AND MEDICAL WRITINGS

BY

JOHN DOWSON, M.D.



Member of the Royal College of Physicians of London.

“ I have been ever puddering in physic all my life.”

LORD BACON to SIR HUMPHREY MAY.

“ When our feelings have been captivated by the history of the transactions of an illustrious life, the mind is unsatisfied so long as anything remains to be told of the person who has so much interested curiosity and absorbed attention.”

SIR HENRY HALFORD, Bart., P.R.C.P.L.

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ABBREVIATIONS.

W.M.—The Works of Francis Bacon, Lord Chancellor of England. 15 vol. 8vo, 1825-34, and

L.M.—The Life of Francis Bacon, by Basil Montagu, Esq. 8vo, 1834.

W.—The Works of Francis Bacon, Baron of Verulam, Viscount St. Alban, and Lord High Chancellor of England. Collected and edited by James Spedding, M.A., R. L. Ellis, M.A., and D. D. Heath, Barrister-at-Law. 7 vol. 8vo, 1858-61.

L. & L.—The Letters and the Life of Francis Bacon, including all his Occasional Works; with a Commentary by James Spedding.

Tr.—Translation.

AN ESSAY.

FRANCIS BACON was the youngest son of Sir Nicholas Bacon, Lord Keeper of the Great Seal in the reign of Elizabeth, by his second wife Anne, one of the daughters of Sir Anthony Cooke, tutor to King Edward the Sixth; and was born at his father's London residence, York House in the Strand, on the 22nd of January, 1561.

His health is said to have been always delicate, but I find no notice of any particular disorder till after he went to Cambridge, with his elder brother Anthony, in April 1573. From a minute account of their expenses, kept by Dr. Whitgift, then Master of Trinity College, and afterwards Archbishop of Canterbury, "with his own hand," and published in the *British Magazine* for 1848, it appears that his only disorders requiring medical aid, during more than two years' residence at the University, were a sore throat, with probably a swollen gland in the neck, in 1573, and a similar but slighter disorder in 1574. This is inferred from the following entries :

" oyle for frances neck	- - -	xij ^d .
conserve of barberries	- - -	x ^d .
aumont mylke	- - -	vij ^d .
for other meate when he was syek		ijj ^s . 4 ^d .
to the potigarie when frances was syek		ijj ^s .
	
conservie	- - -	vj ^d .
frances in the tyme of sicknes	- - -	ijj ^s ."

Anthony was more frequently and more severely ill; indeed he was a great invalid through life.

They left the University at Christmas 1575, and in September 1576, Francis accompanied to Paris Sir Amias Paulet, who was then sent Ambassador to France, and who reported him, in a letter to his father, dated September 1577, "safe, sound, and in good health." He had, however, while he was at Paris, one little ailment, and his account of it is too characteristic of the great philosopher, who, though capable of the most comprehensive views, thought nothing in nature beneath his notice, to be omitted. "The eye of the understanding" as he says, being "like the eye of the sense; for as you may see great objects through small crannies or levels, so you may see great axioms of nature through small and contemptible instances." (W. II. 377). In his last scientific work, entitled "*Sylva Sylvarum: or a Natural History in ten Centuries,*" which was composed near the close of his life, he says,

"The sympathy of individuals, that have been entire, or have touched, is of all others the most incredible; yet according to our faithful manner of examination of nature, we will make some little mention of it. The taking away of warts, by rubbing them with somewhat that afterwards is put to waste and consume, is a common experiment; and I do apprehend it the rather, because of mine own experience. I had, from my childhood, a wart upon one of my fingers: afterwards, when I was about sixteen years old, being then at Paris, there grew upon both my hands a number of warts (at the least an hundred) in a month's space. The English ambassador's lady, who was a woman far from superstition, told me one day, she would help me away with my warts: whereupon she got a piece of lard, with the skin on, and rubbed the warts all over with the fat side; and amongst the rest, that wart which I

had had from my childhood : then she nailed the piece of lard, with the fat towards the sun, upon a post of her chamber window, which was to the south. The success was, that within five weeks' space all the warts went quite away : and that wart which I had so long endured, for company. But at the rest I did little marvel, because they came in a short time, and might go away in a short time again : but the going away of that which had stayed so long, doth yet stick with me." (W. II, 670.)

The subject of sympathies had always great interest for him, but with true philosophical caution he says in the same work, (II. 666) "The relations touching the force of imagination and the secret instincts of nature, are so uncertain, as they require a great deal of examination ere we conclude upon them. I would have it first thoroughly inquired whether there be any secret passages of sympathy between persons of near blood ; as parents, children, brothers, sisters, nurse-children, husbands, wives, &c. There be many reports in history, that upon the death of persons of such nearness, men have had an inward feeling of it. I myself remember, that being in Paris, and my father dying in London, two or three days before my father's death I had a dream, which I told to divers English gentlemen, that my father's house in the country was plastered all over with black mortar." Certain it is that in February 1579, "his father, having accidentally fallen asleep at an open window during the great thaw which followed a great snow, was seized with a sudden illness of which he died in a few days." He had amply provided for his other four sons (three of whom were by his first wife) but Francis was left with only a fifth part of the fortune intended for him, and therefore had "to study to live," instead of "living to study," which he would have much preferred. "The law was his most obvious and on

many accounts his most promising resource, and he sat down at once to make himself a working lawyer. He left Paris for England on the 20th of March, 1579." (L. & L. i. 8.)

Having engaged in this profession, he applied himself with diligence to its study, and in due time to its practice and improvement. "I hold every man" he says, (and the remarks are as applicable to the practitioner of medicine as of law) "a debtor to his profession; from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavour themselves, by way of amends, to be a help and ornament thereunto. This is performed in some degree by the honest and liberal practice of a profession, when men shall carry a respect not to descend into any course that is corrupt and unworthy thereof, and preserve themselves free from the abuses wherewith the same profession is noted to be infected; but much more is this performed if a man be able to visit and strengthen the roots and foundation of the science itself; thereby not only gracing it in reputation and dignity, but also amplifying it in perfection and substance". (W. VII. 319).

It is no part of the purpose of this sketch to trace the legal and political life of Lord Bacon. It may be found in his "*Life*" by Montagu; in the "*Story*" and the "*Personal History*" of his Life by Dixon; and at much greater length whenever the work may be completed, in his "*Letters and Life*" by Spedding; but it may be mentioned, for every important and long continued engagement would have some influence upon his health, that he sat in parliament from 1584 successively for Melcombe, Taunton, and Liverpool, and that in 1592 he was chosen member for Middlesex. At the beginning of this year he wrote to his uncle, the Lord Treasurer Burghley, a letter from which the following passages are extracted.

"I wax now somewhat ancient; 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 kinds of action are ... Again, the meanness of my estate doth somewhat move me: for though I cannot accuse myself that I am either prodigal 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." Upon this Mr. Spedding observes, "He had just completed his thirty-first year. He had been a Bencher of his Inn for nearly five years, a Reader for nearly three; but I do not find that he was getting into practice. His main object was still to find ways and means for prosecuting his great philosophical enterprise; his hope and wish still was to obtain these by some officè under the Government, from which he might derive both position in the world which would carry influence, employment in the state which would enable him to serve his country in her need, and income sufficient for his purposes, without spending all his time in professional drudgery. Nearly six years had passed since his last application to Burghley (the last which we know of,) and his hopes were no nearer their accomplishment. The clerkship of the Star Chamber," which had been given him two or three years before, "did not help; for it was not in possession nor likely to be for many years." He said, as we learn from his chaplain Dr. Rawley, "that it was like another man's ground buttalling upon his house, which might mend his prospect, but it did not fill his barn." (L. & L. i. 107. and W. i. 7).

Accordingly his health, so far from being "confirmed," appears to have been only somewhat improved. Disappointment, added to close study of law, politics, and philosophy, and pro-

bably more than all, pecuniary embarrassment, began now if not before to tell upon it; as appears by a letter from their mother, a woman of remarkable activity, energy, learning, and piety. On the 24th of May 1592, she writes to Anthony,

“Gratia et salus. That you increase in amending I am glad. God continue it every way. When you cease of your prescribed diet, you had need, I think, to be very wary both of your sudden (change) of quantity and of season of your feeding; specially suppers late or full. Procure rest in convenient time. It helpeth much to digestion. I verily think your brother’s weak stomach to digest hath been much caused and confirmed by untimely going to bed, and then musing *nescio quid* when he should sleep, and then in consequent by late rising and long lying in bed: whereby his men are made slothful and himself continueth sickly. But my sons haste not to hearken to their mother’s good counsel in time to prevent. The Lord our heavenly Father heal and bless you both as his sons in Christ Jesu ... Let not your men see my letter. I write to you and not to them.”

In the course of the following winter there was probably some improvement in the health of Francis, for, being now member of parliament for Middlesex, “he spoke often, and always with such force and eloquence as to ensure the attention of the house.” (L. M. i. 28.) But on the 16th of April 1593 his mother says in a letter to Anthony, “for the state of want of health and of money and some other things touching you both οὐκ ἔα̃ με εὐδεν.” This was crossed on the road by a letter from him in which he says, “I assure myself that your Ladyship, as a wise and kind mother to us both, will neither find it strange nor amiss, which, tendering first my brother’s health, which I know by mine own experiee to depend not a little upon a free mind, and then his credit, I presume to put

your Ladyship in remembrance of your motherly offer to him the same day you departed: which was that to help him out of debt you would be content to bestow the whole interest in Marks upon him," &c. Marks was an estate left to him, which could not be sold without the consent of his mother. To this letter she replied the next day. "For your brotherly care of your brother Francis's state you are to be well liked, and so I do as a Christian mother that loveth you both as the children of God: but as I wrote but in few words yesterday by my neighbour, the state of you both doth much disquiet me, as in Greek words I signified shortly." And on the 29th of August, in the same year, Lord Burghley writes to Lady Bacon, "I thank you for your kind letter; and for your sons, I think your care of them is no less than they both deserve, being so qualified in learning and virtue as if they had a supply of health they wanted nothing. But none are, or very few, *ab omni parte beati*" ... and Francis, in a letter to Lady Paulet, Sep. 23, speaks of his "long languishing infirmity." (P. H. 48.) In the same month he was at Gorbambury with his mother, who was suffering from a quartan ague, but there is no further notice of his own health, till in a letter to his brother, probably written from Twickenham in January 1594, he says "I desired Dr. Hammond to visit you from me, whom I was glad to have here, being a physician, and my complaint being want of digestion;" and to his mother on the 14th of February, "I humbly thank your Ladyship for your good counsel every way, and I hope by God's assistance to follow the same. For my health, I shall have now some leisure to use the benefit of the spring season for the confirming thereof." In this he appears to have succeeded, for in March, Anthony reports to their mother that "he has not seen him looking better."

About this time he wrote "a true report of the detestable treason, intended by Dr. Roderigo Lopez, a physician attending upon the person of the Queen's Majesty, whom he for a sum of money, promised to be paid to him by the King of Spain, did undertake to have destroyed by poison. This Lopez" he says, "of nation a Portuguese, and suspected to be in sect secretly a Jew (though here he conformed himself to the rites of Christian religion,) for a long time professed physie in this land; by occasion whereof,—being withal a man very observant and officious, and of a pleasing and appliable behaviour,—in that regard, rather than for any great learning in his faculty, he grew known and favoured in Court, and was some years since sworn physieian of her Majesty's household; and by her Majesty's bounty, of whom he had received divers gifts of good commodity, was grown to good estate of wealth." He confessed his crime, and was condemned and executed, with two of his confederates. "But there were more conspiracies behind, the bottom of which had not been fathomed." (L. & L. i. 301.) One of them, in which some persons in the North of England were concerned, was "a plot to procure the assassination of the Queen, and at the same instant to raise a rebellion;" and Bacon who, "it pleased her Majesty to confess began to frame very well," was sent in July of this year to investigate the matter on the spot; but he was stopped at Huntingdon by a painful though not dangerous disorder, which is mentioned in a Latin letter from a friend of his to Lady Bacon. "Morbum istum seu potius molestiam (nam morborum, et præcipue istius cui is maxime obnoxius est, propria et efficacissima medicina sunt *αἰμορροΐδες*) nihil est quod inutiliter pharmacis exasperet, et corpuseulum tenue intempes- tive vexet; quod etsi is pro sua prudentia optime videat, a me tamen si opus est admonebitur." His illness did not confine him

long, though long enough to prevent him from proceeding on his mission. (L. & L. I. 304, 5.) By the end of the month he was again in London, but probably not in good health, for in the following month his mother writes to him from Gorhambury, "Look very well to your health. Sup not nor sit not up late. Surely I think your drinking to bedwards hindreth your and your brother's digestion very much. I never knew any but siekly that used it; besides ill for head and eyes. Observe well yet in time. 20 Aug. Gorhā. In Christo,

A. Bacon."

This "drinking to bedwards" is explained by Aubrey, who says in his "*Letters and Lives of Eminent Men*" II, 225, "His Lordship would often drink a good draught of strong beer (Mareh beer) to bedwards, to lay his working faney asleep: which otherwise would keep him from sleeping great part of the night."

Still debt and disease beset him. Anthony's "correspondence during this autumn is full of urgent applications to various friends for loans of money, and the following memorandum, shows that much of his own necessity arose from his anxiety to supply the necessities of his brother. Memorandum. That the fourth of October, '94, at my brother coming to me after a fit of the stone, and falling into talk of the money he ought me as principle debt, he acknowledged to be due to me £650; whereof £200 I borrowed of Mr. Mills," &c. (L. & L. I. 322.) and disappointment must again be added. In 1593 he had been candidate for the office of Attorney-General, but having found that this was to be given to Coke, the Solicitor-General he applied for the latter office, and was kept so long in suspense that he wrote to the Earl of Essex, "I must confess this very delay hath gone so near me, as it hath almost overthrown my health:" and in another letter, "I hope Her

Majesty of her clemency, yea and justice, will not force me to pine here with melancholy." To Burghley he calls himself "a tired sea-sick suitor," and to a friend he says "I have been like a piece of stuff bespoke in the shop; and if her Majesty will not take me, it may be the selling by parcels will be more gainful. For to be as I told you, like a child following a bird, which when he is nearest flieth away and lighteth a little before, and then the child after it again and so *in infinitum*, I am weary of it; and also of wearying my good friends:" but on the 25th of May 1595, he writes "It may be when her Majesty hath tried others, she will think of him that she hath cast aside. For I will take it (upon that which her Majesty hath often said) that she doth reserve me and not reject me;" and his mother, writing to Anthony on the 3rd of June, says "If her Majesty have resolved upon the negative for your brother, as I hear, truly, save for the burst a little, I am glad of it. God, in His time, hath better in store I trust. For, considering his kind of health, and what cumber pertains to that office, it is best for him I hope." (P. H. 325.

On the 11th of the same month he writes to the Lord Keeper Puckering, "Not able to attend your Lordship myself before your going to the Court, by reason of an ague, which offered me a fit on Wednesday morning, but since by abstinence I thank God I have starved, yet so as now he hath turned his back I am chasing him away with a little physic ... but on the 30th Lady Bacon, writing to Anthony, says "Crosby told me he looked very ill, he thought. He taketh still inward grief, I fear" ... and on the 5th of August she says, "I am sorry your brother with inward secret grief hindereth his health. Everybody saith he looketh thin and pale ... I had rather ye both, with God his blessed favour, had very good health and well out of debt than any office."

On the 5th of November Serjeant Fleming was appointed Solicitor-General, and Bacon being thus relieved from suspense, his spirits, and therefore probably his health, at once revived; as we may infer from a letter "To my Lord of Essex" which begins, "I pray God her Majesty's weighing be not like the weight of a balance; *gravia deorsum, levia sursum*. But I am as far from being altered in devotion towards her, as I am from distrust that she will be altered in opinion towards me, when she knoweth me better." Afterwards, speaking of the late appointment, he says, "I esteem it like the pulling out of an aching tooth, which I remember, when I was a child and had little philosophy, I was glad of when it was done."

In the winter of 1595 Mr. Spedding "presumes that he betook himself to his studies, ... and about a year after he printed the little volume containing the *Essays* in their first shape, the *Colours of Good and Evil*, and the *Meditationes Sacrae*." In the two latter there is little reference to medicine, but one of the ten essays then published is entitled '*Of Regiment of Health*.' The number of Essays, in the last edition published in his lifetime, was increased to fifty eight, and that on Health was corrected and much enlarged.

In 1596 he was again a candidate for office, but was again unsuccessful. "I see well," he said, "the Bar will be my Bier, and I must and will use it rather than my poor estate or reputation shall decay. But I stand indifferent whether God call me, or her Majesty."

In the summer or autumn of 1597—the letter has no date—he says "For my practice, it presupposeth my health, which if I should judge of as a man that judgeth of a fair morrow by a fair evening, I might have reason to value well." Accordingly "in almost every measure of general policy discussed" in the Parliament of that year, he "appears to have been

more or less engaged, for there is scarcely a committee list in which his name does not appear." (L. & L. II. 79).

I find no account of his health in 1598, but his pecuniary difficulties were still increasing, and he was arrested for a debt of £300 as he came from the Tower on her Majesty's special service, "by one Sympson, a goldsmith, a man" he says "noted much, as I have heard, for extremities and stoutness upon his purse a man I never provoked with a cross word, no nor with many delays." The case in which he had been engaged was an inquiry into an attempt to destroy the Queen by "the impoisonment of the pommel of her saddle at such times as she should ride abroad; her Majesty being like to rest her hand thereupon for a good time together, and not unlike for her hand to come often about her face, mouth and nostrils," but though this was done by means of a bladder containing the poison, and pricked full of holes, and "in July in the heat of the year, when the pores and veins were openest to receive any malign vapour or tincture, if her Majesty by any accident had laid her hand upon the place," no harm came of it. Mr. Spedding has "no doubt, judging by the style," that the letter from which these notes are taken was written by Bacon; hence they have an interest they would not otherwise possess.

In 1599 he speaks of being in his "last years, for so I account them reckoning by health not by age;" and poverty still besets him; for in March 1600 he earnestly solicits from the Queen the gift of three parcels of ordinary land "arising to the total of eighty and odd pounds," for the removal of "three thorns the compunction whereof instanted me to make this motion at this time ... First my love to my mother, whose health being worn, I do infinitely desire she mought carry this comfort to the grave, not to leave my estate troubled and en-

gaged. Secondly, these perpetuities being now overthrown, I have just fear my brother will endeavour to put away Gorchambury, which if your Majesty enable me by this gift I know I shall be able to get into mine own hands, where I do figure to myself that one day I may have the honour and comfort to bid your Majesty welcome, and to trim and dress the grounds for your Majesty's solace. Thirdly, your Majesty may by this redemption (for so I may truly call it) free me from the contempt of the contemptible, that measure a man by his estate, which I daily find a weakening of me both in courage and means to do your Majesty service ... From my Tub not yet hallowed by your sacred Majesty."

Whether this application succeeded or not is unknown; but it is too well known that he never received from the Queen any of the high and lucrative offices to which he aspired, though she was charmed with his conversation, and frequently employed him; and though he took every method of gaining her favour, down to sending her "one petticoate of white satten, embrothered all over" as a new year's gift. She said, as reported to him by Essex, that "she did acknowledge you had a great wit, and an excellent gift of speech, and much other good learning. But in law she rather thought you could make show to the uttermost of your knowledge, than that you were deep." Accordingly he said long after (May 31, 1612) "My good old mistress was wont to call me her watch candle, because it pleased her to say I did continually burn, and yet she suffered me to waste almost to nothing." (W. M. XII. 282). Nevertheless he seems to have always spoken of her in the loftiest terms of praise, and these doubtless expressed the genuine feelings of his heart, for he continued them after her death in a splendid eulogium, which was more likely to retard than promote his influence with her successor.

Soon after the accession of King James he was knighted. He had much objection to accept the "almost prostituted title," and to be "gregarious in a troop," but he thought it advisable to submit, for this reason among others, that, as he says, "I have found out an alderman's daughter, a handsome maiden to my liking." (W. M. XII. 279.) This was Alice Barnham, who three years later became his wife, and "brought him a sufficiently ample and liberal portion, in marriage. Children he had none." (Rawley.)

At the beginning of 1604 his health must have been pretty good, for Montagu tells us that "during the whole of the conflicts in the stormy session of the parliament which assembled on the 19th of March in that year his exertions were unremitting. He spoke in every debate. He sat upon twenty committees, many of them appointed for the consideration of the important questions agitated at that eventful time. He was selected to attend the conferences of the privy council; to report the result; and to prepare various remonstrances and addresses; was nominated as a mediator between the Commons and the Lords, &c. During the next terms, and the next sessions of parliament his legal and political exertions continued without intermission. Committees were appointed for the consideration of subsidies; of articles of religion; purveyors; recusants, &c. &c. He was a member of them all." (L. M. 119.)

Along with all these labours he was diligently pursuing his inquiry into "all knowledge," and in 1605 appeared "*The two Bookes of Francis Bacon of the proficiencie and advancement of Learning divine and humane;*" consisting "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 later, 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." (W. III. 264).

In this work medicine holds an honourable place. "The knowledge that concerneth man's body," he says, "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 Cosmetic; art of Activity, which is called Athletic; and art Voluptuary, which Tacitus truly calleth *erulitus 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 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 alinent. 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 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 consequent more conjectural; and the art being conjectural hath made so much the more place to be left for imposture ... And many times the impostor is prized and the man of virtue taxed (censured). Nay we see the weakness and credulity of men is such, as they will often prefer a mountebank or witch before a learned physician...." (W. III, 371.)

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 Aesculapius 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." (W. III. 371, 3.)

The pre-eminence of Bacon, the excellence of this work, and it may be in part its flattering dedication to the King, soon led to his promotion. In 1607 he was made Solicitor-General, in 1613 Attorney-General, in 1616 Privy Counsellor, in 1617 Lord Keeper, and on the 4th of January 1619 Lord High Chancellor: in July of the same year he was created Baron of Verulam.

This continued course of prosperity probably contributed much to the preservation of his health, for though in 1616 he says "I have small hopes that I shall live long," I find no men-

tion of any particular illness for several years : but on the 8th of June 1617 he writes to the Earl of Buckingham from Whitehall—

“My very good Lord—This day I have made even with the business of the kingdom for common justice ; not one cause unheard ; the lawyers drawn dry of all the motions they were to make ; not one petition unanswered. And this, I think, could not be said in our age before. This I speak, not out of ostentation but out of gladness, when I have done my duty. I know men think I cannot continue if I should thus oppress myself with business: but that account is made. The duties of life are more than life ; and if I die now, I shall die before the world be weary of me, which in our times is somewhat rare. And all this while I have been a little unperfect in my foot. But I have taken pains more like the beast with four legs than like a man with scarce two legs. But if it be a gout, which I do neither acknowledge, nor much disclaim, it is a good-natured gout ; for I have no rage of it, and it goeth away quickly. I have hope it is but an accident of changing from a field air to a Thames air ; or rather, I think, it is the distance of the king and your lordship from me, that doth congeal my humours and spirits.

When I had written this letter I received your lordship's letter of the third of this present, wherein your lordship sheweth your solicitous care of my health, which did wonderfully comfort me. And it is true that at this present I am very well, and my supposed gout quite vanished.” (W. M. XII, 319.)

On the 18th of the same month he writes “to the Lord Viscount Fenton—my health, I thank God, is good ; and I hope this supposed gout was but an incomer :” (a comer in, a visitor who makes no long stay.) Again, writing from Gorhambury, to the Earl of Buckingham, July 29th, he says “I am, I thank God, much relieved with my being in the country air, and the

order I keep ; so that, of late years I have not found my health better."

And so it probably continued, with the interruption only of slight fits of the gout, of one of which he writes to Buckingham, on the 2nd of October 1620, "the pain of my foot is gone but the weakness doth a little remain ;" till, on the 22nd of January 1621, he celebrated at York House, the place of his birth, his sixtieth birthday, surrounded by his admirers and friends ; on the 27th he was created Viscount St Alban.

A few months before this he had published his greatest philosophical work, entitled "*Novum Organum : Aphorismi de Interpretatione Naturæ et Regno Hominis,*" of which Rawley says "I myself have seen at least twelve copies, revised year by year one after another, and every year altered and amended."

This was the most important contribution he had made to the great object of his life, which he had expressed upwards of eight and twenty years before, and which had never been long out of his thoughts. He then said "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 naturo, or (if one take it favourably) *philanthropia*, is so fixed in my mind as it cannot be removed." How far he succeeded Sir John Herschel tells : "Previous to the publication of the *Novum Organum* of Bacon, natural philosophy, in any legitimate and extensive sense of the word, could hardly be said to exist He will justly be looked upon in all future ages as the great reformer of philoso-

phy, though his own actual contributions to the stock of physical truths were small, and his ideas of particular points strongly tinged with mistakes and errors, which were the fault rather of the general want of physical information of the age than of any narrowness of view on his own part; and of this he was fully aware. It has been attempted by some to lessen the merit of this great achievement, by showing that the inductive method had been practised in many instances, both ancient and modern, by the mere instinct of mankind; but it is not the introduction of inductive reasoning, as a new and hitherto untried process, which characterises the Baconian philosophy, but his keen perception, and his broad and spirit-stirring, almost enthusiastic, announcement of its paramount importance, as the alpha and omega of science, as the grand and only chain for the linking together of physical truths, and the eventual key to every discovery and every application. Those who would deny him his just glory on such grounds would refuse to Jenner or to Howard their civic crowns, because a few farmers in a remote province had, time out of mind, been acquainted with vaccination, or philanthropists, in all ages, had occasionally visited the prisoner in his dungeon." (*Discourse on the Study of Natural Philosophy*, p. 105, 114.)

Lord Bacon had thus reached the summit of his philosophical as well as worldly greatness; but now came the sad reverse, and disease in its train. On the 15th of March 1621, "Sir Robert Phillips reported from a committee appointed to inquire into the abuses of courts of justice, of which he was chairman, that two petitions had been presented for corruption against the Lord Chancellor, by two suitors in the court of Chancery, the one named Aubrey, and the other Egerton." Many other charges of a similar kind were afterwards made against him, and "he resolved to meet his accusers; but his health gave way, and instead of being able to attend in person

he was obliged by writing to address the House of Peers." (L. M. 320).

"I humbly pray your lordships all to make a favourable and true construction of my absence. It is no feigning or fainting, but sickness both of my heart and of my back, though joined with that comfort of mind that persuadeth me that I am not far from heaven whercof I feel the first fruits..." and to Buckingham he wrote, "In troth, that which I fear most, is, lest continual attendance and business together with these cares, and want of time to do my weak body right this spring by diet and physic, will cast me down; and that it will be thought feigning or fainting. But I hope in God I shall hold out." And to the King (May 25) "For the briberies and gifts wherewith I am charged, when the book of hearts shall be opened, I hope I shall not be found to have the troubled fountain of a corrupt heart, in a depraved habit of taking rewards to pervert justice; however I may be frail, and partake of the abuses of the times. And therefore I am resolved when I come to my answer, not to trick my innocency (as I writ to the lords) by cavillations or voidances, but to speak to them the language that my heart speaketh to me, in excusing, extenuating, or ingenuous confessing..." This last he did by admitting "the receipt of several gifts, fines, fees, and presents, some by his officers, some by himself, but nowhere admitting, no where allowing his judges to infer, that he had ever accepted a fee or reward to pervert justice, While he takes to himself some share of blame, he takes to himself no personal share of guilt. He confesses to carelessness, not to crime." (*The Story of Lord Bacon's Life*. By W. Hepworth Dixon, Barrister at Law. p. 443.) Besides, Montagu has clearly shown that "the custom of judges receiving presents had existed in England from time immemorial." Never-

theless "on the 3rd of May the Lords adjudged that, upon his own confession, they had found him guilty, and therefore that he shall undergo fine and ransom of forty thousand pounds; be imprisoned in the Tower during the King's pleasure; be for ever incapable of any office, place, or employment in the state or commonwealth; and shall never sit in parliament, nor come within the verge of the court." (L. M. 372.)

The evening before this sentence was given he wrote to the King, "It hath pleased God for these three days past, to visit me with such extremity of headache upon the hinder part of my head, fixed in one place, that I thought verily it had been some imposthuration; and then the little physic that I have told me that either it must grow to a congelation, and so to a lethargy, or to break, and so to a mortal fever or sudden death; which apprehension, and chiefly the anguish of the pain, made me unable to think of any business. But now that the pain itself is assuaged to be tolerable, I resume the care of my business," &c.

On the last day of May he was committed to the Tower, but was confined only two days, and then allowed the use of Sir John Vaughan's house at Parson's Green, from which he wrote to the Prince, "I am much beholden to your Highness's worthy servant, Sir John Vaughan, the sweet air and loving usage of whose house hath already much revived my languishing spirits." In June he was permitted to retire to his own house at Gorhambury but this is "to me, I protest," he said in a petition intended for the House of Lords, "worse than the Tower. There I could have had company, physicians, conference with my creditors and friends about my debts, and the necessities of my estate, helps for my studies, and the writings I have in hand. Here, I live upon the sword

point of a sharp air, endangered if I go abroad, dulled if I stay within, solitary and comfortless without company, banished from all opportunities to treat with any to do myself good, and to help out my wrecks; and that which is one of my greatest griefs, my wife, that hath been no partaker of my offending, must be partaker of this misery of my restraint." Then, praying for his release from confinement, he adds, "Here-in your lordships shall do a work of charity and nobility; you shall do me good; you shall do my creditors good; and it may be you shall do posterity good, if out of the carcass of dead and rotten greatness, as out of Samson's lion, there may be honey gathered for the use of future times." (L. M. 385). The debts to which he refers were the result of his two greatest failings—love of display, and pecuniary extravagance—both of which in his years of prosperity were unbounded. "When he was at his country house at Gorhambury, St. Albans seemed as if the court had been there, so nobly did he live. Three of his servants kept their coaches, and some kept race-horses. King James sent a buck to him, and he gave the keeper fifty pounds." (Aubrey). But at Gorhambury he was now in exile, and though in February 1622 he applied for a release "for the reasons of an infirm health," and in March he says "the season cometh on now fit for physie, which at this time I have ever used, and my health never so much required," and probably about the same time, but the letter has no date, "this extreme winter hath turned, with me, a weakness of body into a state that I cannot call health, but rather sickness and that more dangerous than felt," in September he says "I am much fallen in love with a private life."

Very soon after his removal to Gorhambury, though he described himself as "old, weak, ruined, in want, a very subject of pity," he began the composition of his "*History of the Reign*

of *King Henry the Seventh*," which was published in the following year, as well as an elaborate "*History of the Winds*." Neither of these works contains much that is applicable to medicine, but hints of value may be found in both. For example, in the former, speaking of "the sweating sickness," he says "if the patient were kept in an equal temper, both for clothes, fire, and drink moderately warm, with temperate cordials, whereby nature's work were neither irritated by heat, nor turned back by cold, he commonly recovered. But infinite persons died suddenly of it, before the manner of the cure and attendance was known." (W. vi. 34.) And in the "*History of the Winds*" he gives his opinion of their qualities, and their influence upon the human body, both in health and sickness, and suggests many inquiries on these subjects, some of which he says, "I am well aware, it is beyond the power of our present experience to answer. But as in civil trials a good lawyer knows how to put questions suitable to the case, but knows not what the witnesses can answer; so is it with us in Natural History. Let posterity look to the rest." (W. v. 145, tr.)

In May 1623 he wrote to Mr. Tobie Matthew, who was with the Prince and Buckingham in Spain, "My health, I thank God, is better than when you left me; and, to my thinking better than before my last sickness." And in August to the Duke—"Upon Mr. Clarke's dispatch, in troth I was ill in health, as he might partly perceive. Therefore I wrote to my true friend, and your grace's devoted servant, Mr. Matthew, to exeuse me to your grace for not writing. Since, I thank God, I am pretty well recovered."

In this year he published a new edition of his treatise "*Of Advancement of Learning*," translated into Latin, and entitled "*De Dignitate et Augmentis Scientiarum*." With a eopy sent to the King he says, "I send in all humbleness to your

majesty, the poor fruits of my leisure. This book was the first thing that ever I presented to your majesty; and it may be will be the last. For I had thought it should have been *post-huma proles*. But God hath otherwise disposed for a while": and to the Prince, "It is a book, I think, will live, and be a citizen of the world, as English books are not ... I did so despair of my health this summer, as I was glad to choose some such work, as I might compass within days; so far was I from entering into a work of length." And yet it was so much enlarged, especially in the section on medicine, that he says "it may go for a new work." (W. M. XII, 451.)

In this year he also published a "*History of Life and Death*," which abounds in suggestive physiological and therapeutical views; but these are too much blended with hypothetical opinions on the influence of "the spirits" as the agents of all changes, both in animate and inanimate bodies. He believed that "in every tangible body there is a spirit covered and enveloped in the grosser body; and that from this spirit consumption and dissolution take their origin No known body in the upper parts of the earth is without a spirit, whether it proceed by attenuation and excoction from the heat of the heavenly bodies, or by some other way. The fabric of the parts is the organ of the spirit, as the spirit is the organ of the reasonable soul, which is incorporeal and divine." (W. v, 321—335.)

Bacon thought this work of so much value that he dedicated it "To the present and future ages," and published it sooner than he had intended, on account of "the extreme profit and importanc of the subject, wherein even the slightest loss of time should be accounted precious For it is my hope and desire" he says, "that it will contribute to the common good; that through it the higher physicians will somewhat raise their

thoughts, and not devote all their time to common cures, nor be honoured for necessity only; but that they will become the instruments and dispensers of God's power and mercy in prolonging and renewing the life of man, the rather because it is effected by safe, convenient, and civil, though hitherto unattempted methods. For although we Christians ever aspire and pant after the land of promise, yet meanwhile it will be a mark of God's favour if in our pilgrimage through the wilderness of this world, these our shoes and garments (I mean our frail bodies) are as little worn out as possible." (W. v, 215, tr.)

In September 1624 he wrote to the Mayor of Cambridge "I have but even newly recovered some degree of health, after a sharp sickness of some weeks," but his zeal in the cause of science and humanity suffered no abatement. He now added to his former works his "*Historia Densi et Rari*. To know the densities and rarities of bodies," he says, "and much more to procure and accomplish the condensations and rarefactions thereof, is a point of first importance both for contemplation and practice." (W. v. 340, tr.) His last scientific work, entitled "*Sylva Sylvarum*," though composed about this time, was not published till 1627, the year after his death. It consists of one thousand paragraphs, each contains a statement of one or more facts, of which many relate to medicine, with generally "some remarks tending to explain the causes of the observed phenomena We ought to regard it as a proof that Bacon's thoughts were busied, up to the close of his life, with his plan for the reform of philosophy, and as the work of a man who, knowing that he could not accomplish his own designs, was yet resolved, in spite of worldly troubles and of increasing infirmities, to labour on in the good cause which he had so long had in hand." (Ellis, W. II, 325.)

At the end of the volume containing the *Sylva Sylvarum*, Dr. Rawley published the "*New Atlantis*," a fable designed to exhibit in an imaginary island, "a model or description of a college instituted for the interpreting of nature and the producing of great and marvellous works for the benefit of men." It was "sometimes called Salomon's House and sometimes the College of the Six Days Works, 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." (W. III, 146). In other words, as the Father of the House says in a supposed address, "the End of our foundation is the knowledge of causes, and secret motions of things; and the enlarging of the bounds of human empire, to the effecting of all things possible." (W. III, 156.)

The following are a few of the parts and proceedings of this College. "We have certain chambers, which we call Chambers of Health, where we qualify the air as we think good and proper for the cure of divers diseases, and preservation of health We have a number of artificial wells and fountains, made in imitation of the natural sources and baths; as tinted upon vitriol, sulphur, steel, brass, lead, nitre, and other minerals We have also large and various orchards and gardens, wherein we make (by art) trees and flowers to come earlier or later than their seasons and many of them we so order, as they become of medicinal use We have certain helps which set to the ear do further the hearing greatly, &c. &c. We have circuits or visits of divers principal cities of the kingdom; where, as it cometh to pass, we do publish such new profitable inventions 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 prevention and remedy of them." (W. III, 125—166.)

To these imaginary "circuits or visits of principal cities" we owe the origin of "*the British Association for the Advancement of Science*," "*the British Medical Association*," and all similar institutions. "What Bacon foresaw in distant perspective, it has been reserved to our day to realize, and as his prophetic spirit pointed out the splendid consequences that would result generally from institutions of this kind, so may we hope that the new visions which are opening before us may be productive of still greater effects than have yet been beheld, and that the bringing together the cultivators of science from the north and south, the east and the west, may fulfil all the anticipations of one of the greatest minds that ever threw glory on our intellectual nature." (*First Report of the British Association*, p. 23.)

At the end of the "New Atlantis" Dr. Rawley inserted a short paper entitled "*Magnalia Naturæ, præcipue quoad usus humanos*," which shews even more clearly than the preceding extracts the comprehensive view which Lord Bacon took of the objects of medical science. Among them are "the prolongation of life. The restitution of youth in some degree. The curing of diseases counted incurable. The mitigation of pain. The increasing of strength and activity. The increasing of ability to suffer torture or pain. The altering of complexions, and fatness and leanness. The increasing and exalting of the intellectual parts. Exhilaration of the spirits, and putting them in good disposition," &c. &c. These, and the various proposals of the New Atlantis, are given as "things possible:" indeed in some of them much has been now done, but far less than Bacon's sanguine mind anticipated. "Let no man" he says, "presume to check the liberality of God's gifts

who, as was said, *hath set the world in man's heart*. So as whatsoever is not God but parcel of the world, he hath fitted it to the comprehension of man's mind, if man will open and dilate the powers of his understanding as he may." (W. III, 221.)

The interest Lord Bacon habitually took in medicine is further shown by his frequent allusions to it in illustration of other subjects: for example; he tells us that Henry the Seventh "being a king that loved wealth and treasure, could not endure to have trade sick, nor any obstruction to continue in the gate-vein; and that he commonly drew blood (as physicians do) rather to save life than spill it." The proclamation of Lady Jane Grey as Queen he calls "an offer of an usurpation, though it was but as *febris ephemera*." (W. III, 336). In his "Advancement of Learning" he says, "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: (W. III, 315) and 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 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." (W. III, 437.) To Queen Elizabeth he writes, in the name of the Earl of Essex, "I had never thought it possible that your Majesty could have so disinterested yourself of me; nor that you had been so perfect in the art of forgetting; nor that after a quintessence of wormwood, your Majesty would have taken so large a draught of poppy, as to have passed so many summers without all feeling of my sufferings: (L. & L. II, 194.) and to the Earl himself he says, "My

Lord, when I first came unto you, I took you for a physician that desired to cure the diseases of the state; but now I doubt you will be like those physicians which can be content to keep their patients low because they will be always in request:" (L. & L. II, 54.) and on another occasion, "though you should not be the blessed physician that cometh in the declination of the disease, yet you embrace that condition which many noble spirits have accepted for advantage." (L. & L. II, 130.) In parliament he said "it is ever gains and no loss, when at the foot of the account there remains the purchase of safety The patient will ever part with some of his blood to save and clear the rest:" (L. & L. II, 86.) and writing to Mr. Secretary Cecil on the reduction of Ireland to obedience and peace, he says, "I do think much letting blood 'in declinatione morbi' is against method of cure: (W. M. v, 188.) and to King James on the improvement of his finances, "I beseech your majesty to give me leave to make this judgment; that your majesty's recovery must be by the medicines of the Galenists and Arabians, and not of the chemists or Paracelsians. For it will not be wrought by any one fine extract, or strong water, but by skilful company of a number of ingredients, and those by just weight and proportion," &c. (W. M. XII, 285.)

In the winter of 1624 Bacon dictated "for recreation in his sickness," and afterwards published, a collection of "*Apothegms new and old.*" Several of them relate to medicine, but these are not the best, and are rather amusing than instructive; for example—

"There was a bishop that was somewhat a delicate person, and bathed twice a day. A friend of his said to him; my Lord why do you bathe twice a day? The bishop answered, because I cannot conveniently bathe thrice.

Dr. Johnson said that in sickness there were three things

that were material ; the physician, the disease, and the patient. And if any two of these joined, then they have the victory. Fer, Ne Hereules quidem contra duos. If the physician and the patient join, then down goes the disease ; for the patient recovers. If the physician and the disease join, then down goes the patient ; that is where the physician mistakes the cure. If the patient and the disease join, then down goes the physician, for he is discredited.

There was a painter became a physician. Whereupon one said to him ; You have done well ; for before the faults of your work were seen, but now they are unseen.

A physician advised his patient, that had sore eyes, that he should abstain from wine. But the patient said, I think rather, Sir, from water, for I have often marked it in blear eyes, and I have seen water come forth, but never wine."

With such innocent pleasantry as this did the great philosopher beguile the tedious hours of sickness ; but his thoughts were habitually turned to higher, and even the highest, objects, as indeed they had been through life. As a *student* he prayed "To God the Father, God the Word, God the Spirit, that He, remembering the calamities of mankind and the pilgrimage of this our life, in which we wear out days few and evil, would please to open to us new refreshments out of the fountains of his goodness, for the alleviating of our miseries" ... As an *author*, "Thou O Father ! who gavest the Visible Light as the firstborn of thy creatures, and didst pour into man the Intellectual Light as the top and consummation of thy workmanship, be pleased to protect and govern this work, which coming from thy Goodness returneth to thy Glory" ... As *Chancellor*, in a prayer found after his death, "Most graeious Lord God, my merciful father from my youth up, my Creator, my Redeemer, my Comforter. Remember, O Lord, how thy servant hath

walked before thee : remember what I have first sought, and what hath been principal in my intentions. I have loved thy assemblies : I have mourned for the divisions of thy church : I have delighted in the brightness of thy sanctuary ... Thy creatures have been my books, but thy scriptures much more. I have sought thee in the courts, fields, and gardens, but I have found thee in thy temples." And his last literary work was a "*Translation of certain Psalms into English verse*," which he dedicated "to his very good friend Mr. George Herbert," to whom he says, "The pains that it pleased you to take about some of my writings I cannot forget ; which did put me in mind to dedicate to you this poor exercise of my sickness. Besides, it being my manner for dedications, to choose those that I hold most fit for the argument, I thought that in respect of divinity and poesy met, (whereof the one is the matter, the other the stile of this little writing,) I could not make better choice." (W. VII, 275.)

One of the last acts of King James was to grant Lord Bacon a full pardon, and he was summoned to the first parliament of King Charles, but was prevented by his infirmities from taking his seat. In the same year (1625) a French nobleman who called upon him, finding him "through weakness confined to his bed," politely said "that his lordship had been ever to him like the angels," often heard of and read of but never seen, to which Bacon replied "your kindness may compare me to an angel, but my infirmities tell me that I am a man : " (L. M. 424.) and about the end of the year he wrote to the Queen of Bohemia, eldest daughter of King James I. "I received your Majesty's gracious letter ... at a time when the great desolation of the plague was in the city, and when myself was ill of a dangerous and tedious sickness." From this he partially recovered, but the premature termination of his life occurred

soon after. The particulars are given by Aubrey: (ii. 227.) "Mr. Hobbes told me that the cause of his Lordship's death was trying an experiment. As he was taking the air in a coach with Dr. Witherborne, physician to the King, towards Highgate, snow lay on the ground, and it came into my Lord's thoughts, why flesh might not be preserved in snow as in salt. They were resolved they would try the experiment presently. They alighted out of the coach, and went into a poor woman's house at the bottom of Highgate hill, and bought a hen, and made the woman exenterate it, and then stuffed the body with snow, and my Lord did help to do it himself. The snow so chilled him, that he immediately fell so extremely ill, that he could not return to his lodgings, (I suppose then at Gray's Inn,) but went to the Earl of Arundell's house at Highgate," where he dictated to its owner his last letter—

"My very good Lord—I was likely to have had the fortune of Caius Plinius the elder, who lost his life by trying an experiment about the burning of the Mountain Vesuvius. For I was also desirous to try an experiment or two, touching the conservation and induration of bodies. As for the experiment itself, it succeeded excellently well; but in the journey between London and Highgate I was taken with such a fit of casting, as I knew not whether it were the stone, or some surfeit, or cold, or indeed a touch of them all three. But when I came to your lordship's house, I was not able to go back, and therefore was forced to take up my lodging here, where your house-keeper is very careful and diligent about me, which I assure myself your lordship will not only pardon towards him, but think the better of him for it. For indeed your Lordship's house was happy to me; and I kiss your noble hands for the welcome which I am sure you give me to it. I know how unfit it is for me to write to your lordship with any other hand than my

own; but by my troth, my fingers are so disjointed with this fit of sickness, that I cannot steadily hold a pen."

"He died," says his chaplain, Dr. Rawley, "on the ninth day of April, in the year 1626, in the early morning of the day then celebrated for our Saviour's resurrection, in the sixty-sixth year of his age, at the Earl of Arundel's house in Highgate, near London, to which place he casually repaired about a week before; God so ordaining that he should die there of a gentle fever, accidentally accompanied with a great cold, whereby the defluxion of rheum fell so plentifully upon his breast, that he died by suffocation, and was buried in St. Michael's church at St. Albans; being the place designed for his burial by his last will and testament," in which he says "for my burial, I desire it may be in St. Michael's church, near St. Albans: there was my mother buried, and it is the parish church of my mansion-house of Gorhambury, and it is the only Christian church within the walls of Old Verulam." (L. M. 447.)

From the original documents and notices that I have quoted, though some of the latter are very slight and vague, it is not difficult to deduce a tolerably clear report of Lord Bacon's health, which was really better than might have been expected, from his delicate constitution and sensitive temperament, his hereditary tendency to gout, and the numerous exciting causes of disease to which he was subjected. In the last year of his prosperity, he speaks of himself as having been "*civilibus negotiis occupatissimum, nec firma admodum valetudine, quod magnum habet temporis dispendium,*" and this was doubtless applicable to many years of his life, but there is no mention of any important disorder, till in his 32nd year, as we learn from one of his mother's letters, he was suffering from indigestion, which she attributes to "untimely going to bed and musing when he should sleep," to which his brother adds the want of "a free

mind," that is, anxiety owing to debt and dissatisfaction: and to musing in the night must be added close application to study during the day. Of ordinary intemperance there is no evidence at any period of his life; his "good draught of strong beer at bed time," if we may believe Aubrey, had a beneficial effect. However this may have been, his disorder continued, being kept up as his mother thought, and no doubt correctly, by "inward secret grief:" but his active life during the years that he held the highest offices of the law, shows conclusively that his indigestion could not then have been in any severe form; and we have no notice of any other ailment except a hæmorrhoidal attack of very short duration, the passage of a small calculus, which I understand to be the "fit of the stone" mentioned by his brother, and of which probably there was no recurrence; two slight fits of the gout, though it may be inferred from a remark on the remedy he used that he had more; and a still slighter attack of ague—a mere ephemera—till his fall. The consequence of this was a fit of very acute neuralgia, which was followed by other disorders not definitely named, but doubtless the effect of mental distress, advancing years, and resolute application to study, to make up, as he said, for lost time. His life was at last suddenly cut short by an attack of bronchitis, brought on by that love of natural science which had brightened the whole course of his life, and continued undiminished in disgrace and premature old age. When a boy he is said to have tried to discover the cause of a singular echo in St. James's Park, (L. M. 3.) and in dying he reported that his last experiment had "succeeded excellently well."

Of the means that he took to preserve and restore his health the account is very imperfect; but in addition to his remark as to physic in the spring, "which at this time I have ever used,"

Dr. Rawley tells us that, "for his diet, it was rather a plentiful and liberal diet, as his stomach would bear it;" and that he took "about three grains of nitre, the use of which he so much extolled in his writings, in thin warm broth every morning, for thirty years together next before his death. For physic he took only a maceration of rhubarb infused into a draught of white wine and beer mingled together for the space of half an hour, once in six or seven days, immediately before his meal, whether dinner or supper. As for other physic, in an ordinary way (whatsoever hath been vulgarly spoken) he took not." His remedy for the gout, "which did constantly ease him of his pain within two hours," was first to apply a poultice, then a bath or fomentation, and then a plaister.

1. *The poultice.* Take of manchet about three ounces, the crumb only, thin cut. Let it be boiled in milk till it grow to a pulp. Add in the end a dram and a half of the powder of red roses. Of saffron ten grains. Of oil of roses an ounce. Let it be spread upon a linen cloth, and applied lukewarm; and continued for three hours space. 2. *The bath or fomentation.* Take of sage leaves half an handful. Of the root of hemlock sliced six drams. Of briony roots half an ounce. Of the leaves of red roses two pugils. Let them be boiled in a pottle of water, wherein steel hath been quenched, till the liquor come to a quart. After the straining, put in half an handful of bay-salt. Let it be used with scarlet cloth, or searlet wool, dipped in the liquor hot, and so renewed seven times; all in the space of a quarter of an hour, or little more. 3. *The plaister.* Take *Emplastrum diacalciteos*, as much as is sufficient for the part you mean to cover. Let it be dissolved with oil of roses, in such a consistence as will stick, and spread upon a picce of holland and applied." (W. 1, 16 and 11, 365.)

This treatment "seldom failed" Bacon says, "to drive away

the gout in twenty-four hours' space," and, though the same effect might have been produced by simpler, it could scarcely have been by safer, means. In this respect it contrasts favourably with the practice of his great contemporary, Harvey, in his own case, for he "was much and often troubled with the gout, and his way of cure was thus; he would then sit with his legs bare, if it were frost, on the leads of Cockaine house, put them into a pail of water, till he was almost dead with cold, and betake himself to his stove, and so 'twas gone." (Aubrey II, 384.) But speedy relief is not always best. "Of the two," said Lord Bacon on one occasion, "better recourse of pain than *intermission to breed peril.*" (L. & L. II, 34.)

These great men differed on other and more important points, for Aubrey says Harvey had been physician to Lord Bacon, "whom he much esteemed for his wit and style, but would not allow him to be a great philosopher. Said he to me, 'He writes philosophy like a Lord Chancellor,' speaking in derision." And if we may suppose that Bacon was dissatisfied with Harvey's medical practice, he was not peculiar in his opinion, for Aubrey further says, "all his profession would allow him to be an excellent anatomist, but I never heard any that admired his therapeutique way. I knew several practitioners in this town (London) that would not have given threepence for one of his bills (prescriptions;) and that a man could hardly tell by one of his bills what he did aim at." (II, 385.) Probably these depreciators of Harvey's skill were disbelievers in his doctrine of the circulation of the blood, for Aubrey heard him say that after his book on that subject came out, "he fell mightily in his practice, and 'twas believed by the vulgar that he was crackbrained;" but his fame now rests principally on that discovery, as the scientific glory of Bacon depends chiefly on his *Novum Organum*, which was for many years, and is even yet

much less popular than some of his other writings, but which contains nevertheless his principal contributions to that “philosophia prima—primitive or summary philosophy,” which, like the stem of a tree, “before it come to discontinue and break itself into arms and boughs,” is common to all the sciences.

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P.S.—In the 11th volume of Lord Bacon’s Works (the 4th of his Letters and Life), edited by Mr. Spedding, is published for the first time a collection of “Private Memoranda,” consisting chiefly of notes on the state of his affairs and the objects he had in view, “for better help of memory and judgment;” but with occasional remarks on his health and the means used for its improvement. From these I subjoin a short extract, and refer the reader for the remainder, and Mr. Spedding’s judicious comment, to the volume from which it is taken.

“When I was last at Gorhambury I was taken much wth my symptome of melancholy and dout of p^rsent perill. I found it first by occasion of soppe wth sack taken midde meale and it contynued wth me that night and y^e next mornyng, but note it cleared and went from me without purge and I turned light and disposed of my self.” p. 57.

“I have used for a fortnight to discontynue clarett wyne and to use midd mele a soppe in sack or a small drawght. At first I found as I thought some strength of stomach by it, having doutted before that by y^e alman milk and barly ereme, and leavyng wyne and wrong of phisike my stomach was to much neglceted. But since I have fownd it hath made me more subject to my symptome. And I cannot impute it to anything more that there hath byne a kynd of relaps, offer to grone, ruetus, fervencie, sense of torrefaction in viscere, And y^e rest, and specially straungnesse and clowdynesse; for both it burnes in the stomach and is vaporous, and I had a manifest sense thereof at Gorhambury that in the very taking of it midd supper I was taken wth the like symptomes. Therefore I think I must resort agayn to some small clarett wyne refrigerate wth herbes; for that increaseth spirits and vaporeth not so much nor burneth not so much in the bottom of the stomach where my distemper is.” p. 80.

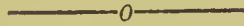
J. D.

“ ‘ The Philosopher,’ says Aristotle, ‘ should end with medicine, the Physician commence with philosophy.’ But philosophy and medicine have been always too much viewed independently of each other.”

SIR WILLIAM HAMILTON.

THOUGHTS.

PART I.



FRANCIS BACON thought in this manner. The knowledge whereof the world is now possessed, especially that of nature, extendeth not to magnitude and certainty of works. The Physician pronounceth many diseases incurable, and faileth oft in the rest. The Alchemists wax old and die in hopes. The Magicians perform nothing that is permanent and profitable. The Mechanics take small light from natural philosophy, and do but spin on their own little threads....

He thought also this state of knowledge was the worse, because men strive (against themselves) to save the credit of ignorance, and to satisfy themselves in this poverty. For the Physician, besides his cauteles of practice, hath this general cautele of art, that he dischargeth the weakness of his art upon supposed impossibilities: neither can his art be condemned, when itself judgeth ...

He thought also, that 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 art: whereas antiquity used to deliver the knowledge which the mind of man had gathered, in observations, aphorisms, or short and dispersed sentences, or small tractates of some parts that they had diligently meditated and laboured; which did invite men, both to ponder that which was invented, and to add and supply further.

Filum Labyrinthi. W. III, 496-498.

I would address one general admonition to all; that they consider what are the true ends of knowledge, and that they seek it not either for pleasure of the mind, or for contention, or for superiority to others, or for profit, or fame, or power, or any of these inferior things; but for the benefit and use of life; and that they perfect and govern it in charity.

Great Instauration; pref. W. iv, 20, tr.

Goodness I call the habit, and Goodness of Nature the inclination. This of all virtues and dignities of the mind is the greatest; being the character of the Deity: and without it man is a busy, mischievous, wretched thing; no better than a kind of vermin. Goodness answers to the theological virtue Charity, and admits of no excess, but error.

Essay XIII. W. vi, 403.

Men have entered 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 terrace, 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.

Advancement of Learning. W. III, 294.

Mere Power and mere Knowledge exalt human nature, but do not bless it. We must therefore gather from the whole store of things such as make most for the uses of life.

Novum Organum. W. IV, 232, tr.

We desire that men should learn and perceive, how severe a thing the true inquisition of nature is; and should accustom themselves, by the light of particulars, to enlarge their minds to the amplitude of the world; and not to reduce the world to the narrowness of their minds.

Sylva Sylvarum. W. II, 436.

The universe to the eye of the human understanding is framed like a labyrinth; presenting as it does on every side so many ambiguities of way, such deceitful resemblances of objects and signs, natures so irregular in their lines, and so knotted and entangled. And then the way

is still to be made by the uncertain light of the sense, sometimes shining out, sometimes clouded over, through the woods of experience and particulars; while those who offer themselves for guides are themselves also puzzled, and increase the number of errors and wanderers.

G. I; pref. W. iv, 18, tr.

Facility to believe, impatience to doubt, temerity to answer, glory to know, doubt to contradict, end to gain, sloth to search, seeking things in words, resting in part of nature; these, and the like, have been the things which have forbidden the happy match between the mind of man and the nature of things, and in place thereof have married it to vain notions and blind experiments.

Life and Letters. I, 125.

The inquiry of truth, which is the love-making or wooing of it, the knowledge of truth, which is the presence of it, and the belief of truth, which is the enjoying of it, is the sovereign good of human nature. The first creature of God, in the works of the days, was the light of the sense; the last was the light of reason; and his sabbath work ever since, is the illumination of his Spirit. First he breathed light upon the face of the matter or chaos; then he breathed light into the face of man; and still he breatheth and inspireth light into the face of his chosen. The poet that beautified the sect that was otherwise inferior to the rest, saith yet excellently well: *It is a pleasure to stand upon the shore, and to see ships tossed upon the sea; a pleasure to stand in the window of a castle, and to*

see a battle and the adventures thereof below : but no pleasure is comparable to the standing upon the vantage ground of Truth, (a hill not to be commanded, and where the air is always clear and serene,) and to see the errors, and wanderings, and mists, and tempests, in the vale below ; so always that this prospect be with pity, and not with swelling, and pride. Certainly, it is heaven upon earth, to have a man's mind move in charity, rest in providence, and turn upon the poles of truth. *Essay i. W. VI, 378.*

Salomon 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.* *Adv. of L. W. III, 299.*

There are and can be only two ways of searching into and discovering truth. The one flies from the senses and particulars to the most general axioms, and from these principles, the truth of which it takes for settled and immovable, proceeds to judgment and to the discovery of middle axioms. And this way is now in fashion. The other derives axioms from the senses and particulars rising by a gradual and unbroken ascent; so that it arrives at the most general axioms last of all Both ways set out from the senses and particulars, and rest in the highest generalities; but the difference between them is infinite. For the one just glances at experiment and particulars in passing, the other dwells duly and orderly among them. The one, again, begins at once by establishing certain abstract and useless generalities, the other rises by gradual steps to that which is prior and better known in the order of nature. *N. O. W.* iv, 50, tr.

It is the duty and virtue of all knowledge to abridge the circuits and long ways of experience (as much as truth will permit,) and to remedy the ancient complaint that "life is short and art is long." And this is best performed by collecting and uniting the axioms of sciences into more general ones, and such as may comprehend all individual cases. For knowledges are as pyramids, whereof history and experience are the basis. And so of Natural Philosophy the basis is Natural History; the stage next the basis is Physic; the stage next the vertical point is Metaphysic. As for the cone and vertical point ("the work which God worketh from the beginning to the end,"

namely, the summary law of nature) it may fairly be doubted whether man's inquiry can attain to it. But these three are the true stages of knowledge.

De Augmentis Scientiarum. W. iv, 361, tr.

Nature exists in three states, and is subject as it were to three kinds of regimen. Either she is free, and develops herself in her own ordinary course; or she is forced out of her proper state by the perverseness and insubordination of matter and the violence of impediments; or she is constrained and moulded by art and human industry. The first state refers to the *species* of things; the second to *monsters*; the third to *things artificial*. For in things artificial nature takes order from man, and works under his authority: without man, such things would never have been made. But by the help and ministry of man, a new face of bodies, another universe or theatre of things, comes into view.

Parasceve. W. iv, 253, tr.

Man is but the servant and interpreter of nature: what he does and what he knows is only what he has observed of nature's order in fact or in thought; beyond this he knows nothing and can do nothing. For the chain of causes cannot by any force be loosed or broken, nor can nature be commanded except by being obeyed. And so those twin objects, human knowledge and human power, do really meet in one; and it is from ignorance of causes that operation fails.

And all depends on keeping the eye steadily fixed upon

the facts of nature and so receiving their images simply as they are. *G. I*; plan. W. iv, 32, tr.

Towards the effecting of works, all that man can do is to put together or put asunder natural bodies. The rest is done by nature working within. *N. O. W.* iv, 47, tr.

The conclusions of human reason as ordinarily applied in matter of nature, I call for the sake of distinction *Anticipations of Nature*, (as a thing rash or premature). That reason which is elicited from facts by a just and methodical process, I call *Interpretation of Nature*.

Anticipations are a ground sufficiently firm for consent; for even if men went mad all after the same fashion, they might agree one with another well enough.

For the winning of assent, indeed, anticipations are far more powerful than interpretations; because being collected from a few instances, and those for the most part of familiar occurrence, they straightway touch the understanding and fill the imagination; whereas interpretations on the other hand, being gathered here and there from very various and widely dispersed facts, cannot suddenly strike the understanding. *N. O. W.* iv, 51, tr.

He who would come duly prepared and fitted to the business of interpretation, must neither be a follower of novelty, custom, nor antiquity; nor indulge himself a liberty of contradicting; nor servilely follow authority. He must neither be hasty in affirming, nor loose and sceptical in doubting; but raise up particulars to the

places assigned them by their degree of evidence and proof. His hope must encourage him to labour, and not to rest; he must not judge of things by their uncommon nature, their difficulty, or their high character; but by their just weight and use...He must prudently observe the first entrance of errors into truths, and of truths into errors, without despising or admiring anything...He must as with one eye, survey the natures of things, and have the other turned towards human uses.

De Interpretatione Naturæ, W. III, 786, tr.

There is a great difference between the Idols of the human mind and the Ideas of the divine. That is to say, between certain empty dogmas, and the true signatures and marks set upon the works of creation as they are found in nature.

N. O. W. IV, 51, tr.

Now the idols, or phantoms, by which the mind is occupied are either adventitious or innate. The adventitious come into the mind from without; namely, either from the doctrines and sects of philosophers, or from perverse rules of demonstration. But the innate are inherent in the very nature of the intellect, which is far more prone to error than the sense is. For let men please themselves as they will in admiring and almost adoring the human mind, this is certain: that as an uneven mirror distorts the rays of objects according to its own figure and section, so the mind, when it receives impression of objects through the sense, cannot be trusted to report them truly, but in forming its notions

mixes up its own nature with the nature of things...The true relation between the nature of things and the nature of the mind, is as the strewing and decoration of the bridal chamber of the Mind and the Universe, the Divine Goodness assisting; out of which marriage let us hope (and be this the prayer of the bridal song) there may spring helps to man, and a line and race of inventions that may in some degree subdue and overcome the necessities and miseries of humanity.

G. I; plan. W. iv, 27, tr.

There are four classes of Idols which beset men's minds. To these for distinction's sake I have assigned names,— calling the first class *Idols of the Tribe*; the second, *Idols of the Cave*; the third, *Idols of the Market-place*; the fourth, *Idols of the Theatre*.

N. O. W. iv, 53, tr.

The *Idols of the Tribe* have their foundation in human nature itself, and in the tribe or race of men. For it is a falso assertion that the sense of man is the measure of things. On the contrary all perceptions as well of the sense as of the mind are according to the measure of the individual and not according to the measure of the universe.

N. O. W. iv, 54, tr.

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 oftentimes 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 scaped shipwrack and had paid their vows to Neptune, saying, *Advise now, you that think it folly to invoke Neptune in tempest: Yea but (saith Diagoras) where are they painted that are drowned?*

Adv. of L. W. III, 394.

The human understanding when it has once adopted an opinion (either as being the received opinion or as being agreeable to itself) draws all things else to support and agree with it. And though there be a greater number and weight of instances to be found on the other side, yet these it either neglects and despises, or else by some distinction sets aside and rejects ... Such is the way of all superstition, whether in astrology, dreams, omens, divine judgments, or the like; wherein men, having a delight in such vanities, mark the events where they are fulfilled, but where they fail, though this happen much oftener, neglect and pass them by. But with far more subtlety does this mischief insinuate itself into philosophy and the sciences; in which the first conclusion colours and brings into conformity with itself all that come after, though far sounder

and better. Besides, independently of that delight and vanity which I have described, it is the peculiar and perpetual error of the human intellect to be more moved and excited by affirmatives than by negatives; whereas it ought properly to hold itself indifferently disposed towards both alike. Indeed in the establishment of any true axiom, the negative instance is the more forcible of the two.

N. O., W. iv, 56, tr.

Men observe when things hit, and not when they miss; and commit to memory the one, and forget and pass over the other.

S. S., W. II. 668.

The human understanding is no dry light, but receives an infusion from the will and affections; whence proceed sciences which may be called "sciences as one would." For what a man had rather were true he more readily believes. Therefore he rejects difficult things from impatience of research; sober things, because they narrow hope; the deeper things of nature, from superstition; the light of experience, from arrogance and pride, lest his mind should seem to be occupied with things mean and transitory; things not commonly believed, out of deference to the opinion of the vulgar. Numberless in short are the ways, and sometimes imperceptible, in which the affections colour and infect the understanding.

N. O., W. iv, 57, tr.

The mind of man is strangely eager to be relieved from suspense, and to have something fixed and immovable,

upon which in its wanderings and disquisitions it may securely rest. And assuredly as Aristotle endeavours to prove that in all motion there is some point quiescent; and as he very elegantly interprets the ancient fable of Atlas, who stood fixed and supported the heaven on his shoulders, to be meant of the poles or axle-tree of heaven, whereupon the conversion is accomplished; so do men earnestly desire to have within them an Atlas or axletree of the thoughts, by which the fluctuations and dizziness of the understanding may be to some extent controlled; fearing belike that their heaven should fall. And hence it is that they have been in too great a hurry to establish some principles of knowledge, round which all the variety of disputations might turn, without peril of falling and overthrow; not knowing that he who makes too great haste to grasp at certainties shall end in doubts, while he who seasonably restrains his judgment shall end in certainties.

De Augm. W. iv, 428, tr.

The *Idols of the Cave* take their rise in the peculiar constitution, mental or bodily, of each individual; and also in education, habit and accident Every one (besides the errors common to human nature in general) has a cave or den of his own, which refracts and discolours the light of nature; owing either to his own proper and peculiar nature; or to his education and conversation with others; or to the reading of books, and the authority of those whom he esteems and admires; or to the differences of impressions, accordingly as they take place in a mind preoccupied and predisposed or in a mind indifferent and settled; or the like.

There is one principal and as it were radical distinction between different minds, in respect of philosophy and the sciences; which is this: that some minds are stronger and apter to mark the differences of things, others to mark their resemblances. The steady and acute mind can fix its contemplations and dwell and fasten on the subtlest distinctions: the lofty and discursive mind recognises and puts together the finest and most general resemblances. Both kinds however easily err in excess, by catching the one at gradations the other at shadows.

Generally let every student of nature take this as a rule,—that whatever his mind seizes and dwells upon with peculiar satisfaction is to be held in suspicion, and that so much the more care is to be taken in dealing with such questions to keep the understanding even and clear.

N. O., W. iv, 54, 59, 60, tr.

It is strange how men, like owls, see sharply in the darkness of their own notions, but in the daylight of experience wink and are blinded.

Historia Vitæ et Mortis, W. v, 231, tr.

The *Idols of the Market place* are the most troublesome of all: idols which have crept into the understanding through the alliances of words and names. For men believe that their reason governs words; but it is also true that words react on the understanding; and this it is that has rendered philosophy and the sciences sophistical and inactive. Now words, being commonly framed and applied according to the capacity of the vulgar, follow

those lines of division which are most obvious to the vulgar understanding. And whenever an understanding of greater acuteness or a more diligent observation would alter those lines to suit the true divisions of nature, words stand in the way and resist the change. Whence it comes to pass that the high and formal discussions of learned men end oftentimes in disputes about words and names; with which (according to the use and wisdom of the mathematicians) it would be more prudent to begin, and so by means of definitions reduce them to order. Yet even definitions cannot cure this evil in dealing with natural and material things; since the definitions themselves consist of words, and those words beget others: so that it is necessary to recur to individual instances, and those in due series and order.

The idols imposed by words on the understanding are of two kinds. They are either names of things which do not exist (for as there are things left unnamed through lack of observation, so likewise are there names which result from fantastic suppositions and to which nothing in reality corresponds,) or they are names of things which exist, but yet confused and ill-defined, and hastily and irregularly derived from realities.

N. O., W. iv. 60, 61, tr.

The *Idols of the Theatre* are not innate, nor do they steal into the understanding secretly, but are plainly impressed and received into the mind from the play-books of philosophical systems and the perverted rules of demonstration. . . . And in the plays of this philosophical theatre you may

observe the same thing which is found in the theatre of the poets, that stories invented for the stage are more compact and elegant, and more as one would wish them to be, than true stories out of history.

In general however there is taken for the material of philosophy either a great deal out of a few things, or a very little out of many things; so that on both sides philosophy is based on too narrow a foundation of experiment and natural history, and decides on the authority of too few cases. For the Rational School of philosophers snatches from experience a variety of common instances, neither duly ascertained nor diligently examined and weighed, and leaves all the rest to meditation and agitation of wit.

There is also another class of philosophers, who having bestowed much diligent and careful labour on a few experiments, have thence made bold to educe and construct systems; wresting all other facts in a strange fashion to conformity therewith.

And there is yet a third class, consisting of those who out of faith and veneration mix their philosophy with theology and traditions; among whom the vanity of some has gone so far aside as to seek the origin of sciences among spirits and genii. So that this parent stock of errors—this false philosophy—is of three kinds; the Sophistical, the Empirical, and the Superstitious.

N. O., W. IV, 62-64, tr.

A good method of demonstration or form of interpreting nature may keep the mind from going astray or

stumbling, but it is not any excellence of method that can supply it with the material of knowledge. Those however who aspire not to guess and divine, but to discover and know; who propose not to devise mimic and fabulous worlds of their own, but to examine and dissect the nature of this very world itself; must go to facts themselves for every thing. Nor can the place of this labour and search and worldwide perambulation be supplied by any genius or meditation or argumentation; no, not if all men's wits could meet in one It is in vain that you polish the mirror if there are no images to be reflected; and it is as necessary that the intellect should be supplied with fit matter to work upon, as with safeguards to guide its working. · *G. I. plan. W. iv, 28, tr.*

So much concerning the several classes of Idols and their equipage: all of which must be renounced and put away with a fixed and solemn determination, and the understanding thoroughly freed and cleansed; the entrance into the kingdom of man, founded on the sciences, being not much other than the entrance into the kingdom of heaven, wherein no one may enter except as a little child. *N. O., W. iv. 69, tr.*

There remains an appendix to the Art of Judging, of great excellency It treats of the application of the differing kinds of proofs to the differing kinds of matters or subjects; and may be called the doctrine of the judgment of judgments. For Aristotle rightly observes, "That we ought not to require either demonstrations

from orators or persuasions from mathematicians." And therefore if there be an error in the kind of proof employed, the judgment itself cannot be truly made For rigour and curiosity in requiring the more severe kinds of proof in some things, and still more facility and remissness in contenting ourselves with the weaker kinds in others, are to be numbered among the chief causes of detriment and hindrance to knowledge.

De Augm. W. iv. 434, tr.

Those who have handled sciences have been either men of experience or men of dogmas. The men of experiment are like the ant; they only collect and use: the reasoners resemble the spiders, who make cobwebs out of their own substance. But the bee takes a middle course; it gathers its material from the flowers of the garden and of the field, but transforms and digests it by a power of its own. Not unlike this is the true business of philosophy; for it neither relies solely or chiefly on the powers of the mind, nor does it take the matter which it gathers from natural history and mechanical experiments and lay it up in the memory whole, as it finds it; but lays it up in the understanding altered and digested. Therefore from a closer and purer league between these two faculties, the experimental and the rational, (such as has never yet been made) much may be hoped. *N. O., W. iv, 92, tr.*

Let no man look for much progress in the sciences—especially in the practical part of them—unless natural

philosophy be carried on and applied to particular sciences and particular sciences be carried back again to natural philosophy. For want of this, astronomy, optics, music, a number of mechanical arts, medicine itself,—nay, what one might more wonder at, moral and political philosophy, and the logical sciences,—altogether lack profoundness and merely glide along the surface and variety of things; because after these particular sciences have been once distributed and established, they are no more nourished by natural philosophy; which might have drawn out of the true contemplation of motions, rays, sounds, texture and configuration of bodies, affections, and intellectual perceptions, the means of imparting to them fresh strength and growth. *N. O.*, W. iv, 79, tr.

For the command over things natural,—over bodies, medicines, mechanical powers, and infinite other of the kind—is the one proper and ultimate end of true natural philosophy. *De Sapientia Veterum*. W. vi, 757, tr.

We see that if men fall to subdivide their labours, as to be an oculist in physic, or to be perfect in some one title of the law, or the like, they may prove ready and subtile, but not deep or sufficient, no not in that subject which they do particularly attend, because of that consent which it hath with the rest....Sciences distinguished have a dependence upon universal knowledge to be augmented and rectified by the superior light thereof, as well as the parts and members of a science have upon the *Maxims* of the same science, and the mutual light and consent which one part receiveth of another. *Interpr. of N. W.* III, 228.

If men judge that learning should be referred to use and action, they judge well; but it is easy in this to fall into the error pointed at in the ancient fable; in which the other parts of the body found fault with the stomach, because it neither performed the office of motion as the limbs do, nor of sense as the head does; but yet notwithstanding it is the stomach which digests and distributes the aliment to all the rest. So if any man think that philosophy and universality are idle and unprofitable studies, he does not consider that all arts and professions are from thence supplied with sap and strength.

De Augm. W. iv, 285, tr.

No one successfully investigates the nature of a thing in the thing itself; the inquiry must be enlarged, so as to become more general.

N. O. W. iv, 71, tr.

No one should be disheartened or confounded if the experiments which he tries do not answer his expectation. For though a successful experiment be more agreeable, yet an unsuccessful one is oftentimes no less instructive.

De Augm. W. iv., 421, tr.

There will be met with in my history and experiments many things which are trivial and commonly known; many which are mean and low . . . First for those things which seem common; let men bear in mind that hitherto they have been accustomed to do no more than refer and adapt the causes of things which rarely happen to such as happen frequently; while of those which happen fre-

quently they never ask the cause but take them as they are for granted And for things that are mean or even filthy,—things which (as Pliny says) must be introduced with an apology,—such things, no less than the most splendid and costly, must be admitted into natural history. Nor is natural history polluted thereby ; for the sun enters the sewer no less than the palace, yet takes no pollution. And for myself, I am not raising a capitol or pyramid to the pride of man, but laying a foundation in the human understanding for a holy temple after the model of the world. That model therefore I follow. For whatever deserves to exist deserves also to be known, for knowledge is the image of existence ; and things mean and splendid exist alike. *N. O. W.* iv, 106, tr:

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.

Adv. of L. W. III, 332:

A true philosopher should look at all things alike, and lay down those as the principles of things, which agree as well with the smallest, rarest, and most neglected of essences, as with the greatest and most numerous and vigorous.

De Principiis. W. v, 474, tr:

PART II.

WE come 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 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 distributively; the other congregate, or in society. So as Human Philosophy is 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. *Adv. of L. W. III, 366.*

With regard to the doctrine concerning the League or Common Bond between the soul and body, it is distributed into two parts. For as in all leagues and amities there is both mutual intelligence and mutual offices, so the description of this league of soul and body consists in like manner of two parts: namely, how these two (that is Soul and Body) disclose the one the other, and how they work the one upon the other; by knowledge or indication, and by impression. The former of these (that is, the description of what knowledge of the mind may be obtained from the habit of the body, or of the body from the accidents of the mind) has begotten two arts; both of prediction; whereof the one is honoured with the inquiry of Aristotle, and the other of Hippocrates. And although they have of later times been polluted with superstitious and fantastical arts, yet being purged and restored to their true state, they have both a solid ground in nature and a profitable use in life. The first is Physiognomy, which discovers the dispositions of the mind by the lineaments of the body; the second is the Interpretation of Natural Dreams, which discovers the

state and disposition of the body by the agitations of the mind a thing that has been laboriously handled by many writers, but it is full of follies. At present I will only observe that it is not grounded upon the most solid foundation of which it admits; which is, that when the same sensation is produced in the sleeper by an internal cause which is usually the effect of some external act, that external act passes into the dream. A like oppression is produced in the stomach by the vapour of indigestion and by an external weight superimposed; and therefore persons who suffer from the night-mare dream of a weight lying on them, with a great array of circumstances. There are likewise innumerable instances of this kind.

The latter branch of the doctrine of the League (which I have termed Impression) ... has the same relation or antistrophe that the former has. For the consideration is twofold; either how and how far the humours and temperament of the body alter and work upon the mind; or again, how and how far the passions or apprehensions of the mind alter and work upon the body. For the physicians prescribe drugs to heal mental diseases, as in the treatment of phrensy and melancholy.

As for the reciprocal part (which is the operation of the mind and its passions upon the body,) it also has found a place in medicine. For there is no physician of any skill who does not attend to the accidents of the mind, as a thing most material towards recoveries, and of the greatest force to further or hinder other remedies. But another question pertinent to this subject has been but sparingly inquired into, and no wise in proportion to its depth and

worth ; namely how far (setting the affections aside) the very imagination of the mind, or a thought strongly fixed and exalted into a kind of faith, is able to alter the body of the imaginant. For although it has a manifest power to hurt, yet it follows not that it has the same degree of power to help ; no more indeed than a man can conclude, that because there are pestilent airs, able suddenly to kill a man in health, therefore there should be sovereign airs, able suddenly to cure a man in sickness. Such an inquiry would surely be of noble use ; though it needs (as Socrates says) a *Delian diver* ; for it lies deep. Again, among those doctrines concerning the League, or the concordances between the mind and body, there is none more necessary than the inquiry concerning the proper seats and domiciles which the several faculties of the mind occupy in the body and its organs. Which kind of knowledge has not been without its followers ; but what has been done in it is in most parts either disputed or slightly inquired ; so that more diligence and acuteness is requisite.

De Augm. W. iv, 375—378, tr.

The doctrine that concerns man's body receives the same division as the good of man's body, to which it refers. The good of man's body is of four kinds ; Health, Beauty, Strength, and Pleasure. The knowledges therefore are in number the same ; Medicine, Cosmetic, Athletic, and Voluptuary, which Tacitus truly calls "educated luxury."

Medicine is a most noble art, and according to the poets has a most illustrious pedigree. For they have represent-

ed Apollo as the primary god of medicine, and given him a son, Æsculapius, likewise a god, professor of the same; seeing that in nature the sun is the author and source of life, the physician the preserver and as it were the second fountain thereof. But a far greater honour accrues to medicine through the works of our Saviour, who was the physician both of soul and body; and as he made the soul the peculiar object of his heavenly doctrine, so he made the body the peculiar object of his miracles. (*De Augm.* W. iv, 379, tr.) He restored motion to the lame, light to the blind, speech to the dumb, health to the sick, cleanliness to the lepers, sound mind to them that were possessed of devils, life to the dead. There was no miracle of judgment, but all of mercy, and all upon the human body.

Meditationes Sacrae. W. vii, 244, tr.

Medicine is a science which has been hitherto more professed than laboured, and yet more laboured than advanced....I will divide it into three parts, which I will term its three offices; the first whereof is the Preservation of Health, the second the Cure of Diseases, and the third the Prolongation of Life. *De Augm.* W. iv, 383, tr.

With regard to the office of the preservation of health, many have written thereon, very unskilfully both in other respects, and especially in attributing too much (as I think) to the choice of meats and too little to the quantity. Moreover with regard to quantity itself they have argued like moral philosophers, too much praising the mean; whereas both fasting, when made customary, and a generous diet, to which one is used, are better preservatives of

health than those mediocrities, which only make nature slothful and unable to bear either excess or want when it is necessary. Nor have the kinds of exercises which have most power to preserve health been by any physician well distinguished and pointed out; although there is scarcely any tendency to disease which may not be prevented by some proper exercise. *De Augm. W. iv, 384, tr.*

There is a wisdom in this beyond the rules of physic: a man's own observation, what he finds good of, and what he finds hurt of, is the best physic to preserve health. But it is a safer conclusion to say, *This agreeth not well with me, therefore I will not continue it*; than this, *I find no offence of this, therefore I may use it*. For strength of nature in youth passeth over many excesses, which are owing a man till his age. Discern of the coming on of years, and think not to do the same things still; for age will not be defied. Beware of sudden change in any great point of diet, and if necessity inforce it, fit the rest to it. For it is a secret both in nature and state, that it is safer to change many things than one, (*quam unum magnum.*) Examine thy customs of diet, sleep, exercise, apparel, and the like; and try, in any thing thou shalt judge hurtful, to discontinue it by little and little; but so, as if thou dost find any inconvenience by the change, thou come back to it again: for it is hard to distinguish that which is generally held good and wholesome, from that which is good particularly, and fit for thine own body.

Essay xxx. W. vi, 452.

To the cure of diseases belongs the knowledge of the diseases to which the human body is subject; with their causes, symptoms, and remedies.

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 either the nature of the soil or the seasons of the weather; no more can the physician either the natural temper and constitution of the patient, or the variety of accidents. Now in the culture of the mind and the cure for its diseases three things are to be considered; the different characters of dispositions, the affections and the remedies; just as in the treatment of the body three things are observed: the complexion or constitution of the sick man, the disease, and the cure; but of these three, only the last is in our power, the two former are not. Yet the inquiry into things beyond our power ought to be as careful as into those within it; for the exact and distinct knowledge thereof is the groundwork of the doctrine of remedies, that they may be more conveniently and successfully applied; and we cannot fit a garment, except we first take measure of the body. *De Augm. W. v, 20, tr.*

Knowledge drawn freshly and in our view out of particulars knows best the way back to particulars again; and it contributes much more to practice, when the discourse or discussion attends on the example, than when the example attends upon the discourse. And this is not only a point of order, but of substance also. For when the

example is laid down as the ground of the discourse, it is set down with all the attendant circumstances, which may sometimes correct the discourse thereupon made, and sometimes supply it, as a very pattern for imitation and practice; whereas examples alleged for the sake of the discourse, are cited succinctly and without particularity, and like slaves only wait upon the demands of the discourse.

De Augm. W. v, 56, tr.

In sickness, respect health principally; and in health, action. For those that put their bodies to endure in health, may in most sicknesses, which are not very sharp, be cured only with diet and tendering (*absque multa medicatione.*)

Essay xxx. W. vi, 453.

A great wisdom to know quid præscribere, quid permittere and to let nature work.

L. and L. iv, 52.

A wise physician will consider whether a disease be incurable; or whether the just cure of it be not full of peril; and if he find it to be such, let him resort to palliation; and alleviate the symptom, without busying himself too much with the perfect cure: and many times (if the patient be indeed patient) that course will exceed all expectation.

S. S. W. II, 366.

The very remedies of dangers carry little dangers in them.

Every violent remedy is pregnant with some new evil.

While things are wavering, watch; when they have taken their direction, act. *De Augm. W. iv, 490, tr.*

Variety of medicines is the child of ignorance; and if it be true, according to the proverb, that "many dishes have made many diseases," it is not less true that many medicines have made few cures. *H. V. et M. W. v, 300, tr.*

If one thing would serve the turn it were ever best, but the defect and imperfections of things have brought in that help to piece them up; as it is said *Martha, Martha, attendis ad plurima, unum sufficit*. So likewise hereupon Æsop framed the fable of the fox and the cat; whereas the fox bragged what a number of shifts and devices he had to get from the hounds, and the cat said she had but one, which was to climb a tree, which in proof was better worth than all the rest.

Colours of Good and Evil, W. vii, 83.

But surely, *ubi deficiunt remedia ordinaria, recurrendum est ad extraordinaria*. *L. and L. iv, 312.*

That will do good in one body which will not do good in another: according to the correspondence the medicine hath to the individual body. *S. S. W. ii, 672.*

It helpeth, both in medicine and aliment, to change, and not to continue the same medicine and aliment still. The cause is, for that nature, by continual use of anything, groweth to a satiety and dullness, either of appetite or

working. And we see that assuetude of things hurtful doth make them leese their force to hurt; as poison, which with use some have brought themselves to brook. And therefore it is no marvel though things helpful, by custom, leese their force to help. I count intermission almost the same thing with change; for that that hath been intermitted is after a sort new. *S. S. W. II, 369.*

Men believe that if the quantity be increased or multiplied, the power and virtue is increased or multiplied proportionately. And this they postulate and suppose as if it had a kind of mathematical certainty; which is utterly false.... Men should consider the story of the woman in *Æsop*, who expected that with a double measure of barley her hen would lay two eggs a day; whereas the hen grew fat and laid none. As a rule then, it will not be safe to rely on any experiment in nature, unless it has been tried both in greater and lesser quantities.

As to the qualifying of medicines (if it be ever necessary,) it ought rather to be done in the vehicles than in the body of the medicines, wherein nothing should be altered without evident necessity.

De Augm. W. IV, 414, 388, tr.

Although a man would think, by the daily attentions which physicians pay to their patients,—their visitations, nursings and prescriptions,—that they were pursuing the cure diligently and following it up by a certain path; yet let a man look more deeply into the prescripts and ministrations which physicians use, and he will find the most of

them full of vacillation and inconstancy, devices of the moment, without any settled or foreseen course of cure; whereas they ought from the very first, as soon as ever the disease is fully discovered and known, to resolve upon some regular plan of treatment, and not to depart therefrom without grave reason. It is order, pursuit, sequence, and skilful interchange of application, which is mighty in nature. And these things, although they require greater judgment in prescribing and more constant obedience in observing, yet make up for it abundantly by the magnitude of the effects they produce. *De Augm. W.* iv, 389, tr.

Physicians are some of them so pleasing and conformable to the humour of the patient, as they press not the true cure of the disease; and some others are so regular in proceeding according to art for the disease, as they respect not sufficiently the condition of the patient. Take one of a middle temper; or if it may not be found in one man, combine two of either sort; and forget not to call as well the best acquainted with your body, as the best reputed of for his faculty. *Essay xxx. W.* vi, 454.

I conceive that it would be of great use if some physicians, among the more distinguished both for learning and practice, would compose a work on medicines tried and approved by experiment for the cure of particular diseases. For if it be thought fitter for a learned physician (after taking account of the constitution and age of his patients, the season of the year, their customs, and the like) to apply his medicines according to the occasion,

than to abide by any certain prescriptions, the opinion, though plausible, is fallacious, and allows too little weight to experience, and too much to judgment. For as they were the most useful citizens and of the best composition in the state of Rome, who either being consuls inclined to the people, or being tribunes inclined to the senate; so in the matter we now handle, they are the best physicians, who being great in learning most incline to the traditions of experience; or being distinguished in practice do not reject the methods and generalities of art.

De Augm. W. iv, 388, tr.

The third part of medicine which I have set down is that which relates to the Prolongation of Life, which is new, and deficient; and the most noble of all. For if such a thing may be discovered, the business of medicine will no longer be confined to humble cures, nor will physicians be honoured only for necessity; but for a gift to men—of earthly gifts perhaps the greatest—of which, next to God, they may become the dispensers and administrators. For although to a Christian making for the Land of Promise the world is but a wilderness, yet even while we travel in the wilderness to have our shoes and garments (that is our bodies, which are as the clothing of the soul) not worn out by the way, must be accounted as a gift of divine grace.

De Augm. W. iv, 390, tr.

That "Life is short and Art long" is an old proverb and complaint. It appears therefore to follow naturally that I who am earnestly labouring for the perfection of arts

should take thought also, by the grace and favour of the Author of Life and Truth, about the means of prolonging the life of man. *H. V. et M. W. v, 217, tr.*

This the physicians do not seem to have recognised as the principal part of their art, but to have confounded, ignorantly enough, with the other two. For they imagine that if diseases be repelled before they attack the body, and cured after they have attacked it, prolongation of life necessarily follows. But though there is no doubt of this, yet they have not penetration to see that these two offices pertain only to diseases, and such prolongation of life as is intercepted and cut short by them. But the lengthening of the thread of life itself, and the postponement for a time of that death which gradually steals by natural dissolution and the decay of age, is a subject which no physician has handled in proportion to its dignity.

De Augm. W. iv, 383, tr.

With regard to the length and shortness of life in animals, the information to be had is small, observation careless, and tradition fabulous. Among domestic creatures a degenerate life spoils the constitution; in wild animals severity of weather curtails the natural duration.

Neither is this information much advanced by what may appear to be concomitants; namely the size of the body, the time of gestation in the womb, the number of young, the time of growth, and the like; for these things are complicated, concurring in some cases and not in others.

The age of man (as far as can be gathered from any

certain account) exceeds in length that of all other animals, with the exception of a very few The elephant, on undoubted authority, exceeds the ordinary run of human life.

More birds than beasts are long-lived; though they complete their growth in a year, and are of less size. Certainly they are excellently protected against the inclemency of the weather; and as they generally live in the open air, they resemble the inhabitants of pure mountains, who are long-lived. Their movements likewise, which are partly by carriage and partly by motion of the limbs, shake and fatigue them less, and are more healthy.

H. V. et M. W. v, 233, 239, tr.

It seems to be approved by experience that a spare and almost Pythagorean diet, such as is prescribed by the stricter orders of monastic life, or the institutions of hermits, which regarded want and penury as their rule, produces longevity But if the diet should be a little more generous, and without so much rigour and mortification, yet so long as it is regular and consistent, it produces the same result. For in flames likewise we see that a somewhat greater flame, if it be steady and calm, consumes less of its fuel than a smaller flame that is blown about, and alternately strong and weak.

The saying which forbids many dishes is for a censor rather than a physician The various and somewhat heterogeneous mixture of aliments finds a better and quicker passage into the veins and juices than a simple and homogeneous diet does. Besides it has great power

to excite the appetite, which is the spur of the digestion.

The preparation of meats, bread, and drinks, if it be well ordered and agreeable to this intention, is of very great importance. And although it be a thing mechanical and savouring of the kitchen and the cellar, yet it is worth more than the fables of gold, precious stones, and the like.

H. V. et M. W. v, 277, 302, tr.

We should not neglect the advice of Celsus, a wise as well as a learned physician, who advises variety and change of diet, but with an inclination rather to the liberal side; namely, that a man should at one time accustom himself to watching, at another to sleep, but oftener to sleep; sometimes fast and sometimes feast, but oftener feast; sometimes strenuously exert, sometimes relax the faculties of his mind, but oftener the latter. But doubtless a well-regulated diet most contributes to the prolongation of life; and I never met a very old man, who on being asked had not observed some peculiarity of diet; some on one thing, some another. I remember an old man above a hundred, being brought as a witness about some ancient prescription, who when at the end of his evidence he was familiarly asked by the judge, "what means he had taken to live so long," answered unexpectedly, and amidst the laughter of the audience "By eating before I was hungry, and drinking before I was thirsty."

Extracts of meats and minces well seasoned are good for old men; in extreme old age, food ought to be so prepared as to be almost half way to chyle.

We must be cautious about spices, wine, and strong drink, and use them very temperately, with intervals of abstinence. *H. V. et M. W.* v, 262, 303, 276, tr.

With regard to motion and exercises; fatigue and all motion and exercise that is too rapid and violent, as running, games at ball, fencing, and the like are injurious; as also those exercises in which our strength is exerted and strained to the uttermost, as leaping, wrestling, and the like On the other hand, exercises which provoke a motion tolerably strong, yet not too rapid, or requiring the uttermost strength, such as dancing, archery, riding, playing at bowls, and the like, are not injurious but rather beneficial.

Exercises to distribute the juices over the body should affect all the members equally; not (as Socrates says) that the legs should move and the arms rest, nor the contrary; but that all the parts should share in the motion.

H. V. et M. W. v, 278, 301, tr.

Much motion and exercise is good for some bodies; and sitting and less motion for others Likewise men ought to beware that they use not exercise and a spare diet both: but if much exercise, then a plentiful diet; and if sparing diet then a little exercise.

S. S. W. II, 440.

In extreme old age the same principle holds with regard to food and sleep, for both should be taken frequently, though little at a time. And at the very end of life,

mere rest, and a kind of perpetual repose, is good, especially in the winter.

H. V. et M. W. v, 278, tr.

It is strange that the use of bathing, as a part of diet, is left. With the Romans and Grecians it was as usual as eating or sleeping; and so is it amongst the Turks at this day: whereas with us it remaineth but as a part of physic Certain it is that bathing, and especially anointing, may be so used as it may be a great help to health and prolongation of life.

S. S. W. II, 578.

The goodness of the air in places is better distinguished by experience than by signs. I consider it to be best in plains that are thoroughly exposed to the wind; if the soil is dry, and yet not altogether parched or sandy, and is not entirely treeless, but interspersed with some groups here and there for shade rivers I consider injurious, unless very small, clear and gravelly.

H. V. et M. W. v, 297, tr.

I now come to the affections and passions of the mind; to see which of them are prejudicial to longevity, which profitable.

H. V. et M. W. v, 279, tr.

To be free-minded and cheerfully disposed at hours of meat and of sleep and of exercise, is one of the best precepts of long lasting. As for the passions and studies of the mind; avoid envy; anxious fears; anger fretting inwards; subtle and knotty inquisitions; joys and exhilarations in excess; sadness not communicated. Entertain

hopes ; mirth rather than joy ; variety of delights, rather than surfeit of them ; wonder and admiration, and therefore novelties ; studies that fill the mind with splendid and illustrious objects, as histories, fables, and contemplations of nature. *Essay xxx. W. VI, 453.*

Envy is the worst passion, and it is so much the worse because it is always at work, and (as they say) keeps no holidays.

Hope is of all affections the most useful, and contributes most to prolong life, if it be not too often disappointed, but feed the imagination with the prospect of good. They therefore who set up and propose some definite end as their mark in life, and continually and gradually advance thereto, are mostly long-lived.

Admiration and light contemplation are of very great effect in prolonging life. And hence all contemplators of nature, who had so many and such great wonders to admire, as Democritus, Plato, Parmenides, and Apollonius, were long-lived. The rhetoricians likewise, who did but taste matters lightly, and busied themselves rather about light of speech than the darkness of things, as Gorgias, Protagoras, Isocrates, and Seneca, were long-lived. And certainly as old men are generally talkative and garrulous, so talkative persons very often grow to a great age.

It doubtless tends to longevity to have all things growing smoother and easier as age comes on : so that a youth spent in toil may sweeten old age.

The thing above all others most pleasing to the spirits is a continual advance to the better. Youth and manhood

should therefore be so ordered as to leave new comforts for old age, whereof the principal is moderate rest. And therefore old men in honourable places who do not retire to a life of leisure, offer violence to themselves. A remarkable instance of this is found in the case of Cassiodorus, who had so much authority with the Gothic kings of Italy that he appeared to be the soul and life of their affairs; yet afterwards, when nearly eighty years of age, he retired into a monastery where he lived to be a hundred. Herein, however, two cautions are required; one, that they do not wait till the body is entirely worn out and diseased, for in such bodies all change, even for the better, accelerates death; the other, that they do not give themselves up to mere inertness, but have something to entertain the minds and thoughts in a quiet way; for which the best kind of amusement is reading, and next building and planting.

Lastly, the same action, endeavour, and labour, which if undertaken cheerfully and with good will refreshes the spirits, if it be attended with aversion and dislike preys upon and prostrates them. It will therefore promote longevity if a man either so arrange his life that it shall be free, and pass as he likes, or else obtain such command over his mind that, whatever necessity fortune may impose, it may rather lead than drag him.

H. V. et M. W. v, 279, 263, 282, tr.