

Cautions to young persons concerning health

in a

PUBLIC LECTURE

delivered

at the close of the **MEDICAL COURSE**

in the

CHAPEL at CAMBRIDGE

Nov. 20. 1804 ;

containing

the GENERAL DOCTRINE of CHRONIC DISEASES ;

shewing

the **EVIL TENDENCY** of

the **USE of TOBACCO** upon

YOUNG PERSONS ;

more especially

the PERNICIOUS EFFECTS of SMOKING CIGARRS ;

with observations on

the **USE of ARDENT and VINOUS SPIRITS** in general

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—*Ut sit mens sana in corpore sano.*
Juv.

Printed at the **UNIVERSITY PRESS** by **W. Hilliard.**
MDCCCV.

TO THE MEDICAL STUDENTS,

RESIDENT GRADUATES,

AND

SCHOLARS OF EVERY CLASS.

YOUR application for a copy of my lecture for the press indicates a disposition to persevere in the general resolution, to relinquish an unhealthy and unseemly practice.

I shall set a value on this production, should I hereafter find, that it has in any way assisted you in the attainment of that greatest of all earthly blessings, "A SOUND MIND IN A SOUND BODY."

BENJAMIN WATERHOUSE.

Cambridge January 1805.

PUBLIC LECTURE,

GENTLEMEN,

DURING the first three or four years of our medical establishment I frequently found it needful to give public lectures in this place. Even eight or ten years after its establishment it was customary to commence and to close the medical course by a public lecture in the chapel.* The custom however has been discontinued several years, as nothing special excited a wish to address you altogether. Whether its revival at this time, be for a trivial or beneficial purpose, you yourselves will judge.

When our venerable forefathers fixed upon this spot, as a fit place for the education of youth, they doubtless had regard to the health of its inhabitants. A gravelly plain, near the banks of a tide river, and in the proximity of the sea, together with good springs of pellucid water,† must have led our sagacious ancestors to conclude, that this was a salubrious spot for a college. Time has done honour to their judgment, as during one hundred and fifty years the town of Cambridge and the College have exhibit-

* A public lecture means here an address to all the students of the University of every rank and class.

† WATER was thought by *Hippocrates* to be an article so important to the health of a people, that of his treatises, one of the most elaborate is "on air and water"; which includes soil and situation. Had the builders of *Jericho* known and followed the rules of *Hippocrates*, they would not have complained to the prophet *ELISHA*, that although "the situation of the city was pleasant, the water was naught and the ground barren."

ed a succession of joyful instances of juvenile vigour, healthy manhood, and comfortable old age. From observations, made by the late excellent DR. WIGGLESWORTH,* it appears, that there occurred fewer, much fewer deaths, among the collegians, than among any set of young men in any part of the Commonwealth. Since my connexion with this University as Professor, I can bear testimony to the healthiness of the inhabitants of the town in general, and of the students in particular.† I have noticed the young men within these walls with pleasure, as a blooming, cheerful, hungry assemblage of youthful activity. But does this charming picture any longer exist? Is it not faded and fading, like a flower, that has passed its bloom; and which is about to wither on its stalk? If this idea be just, surely the cause of this faded aspect in the plants of our Seminary calls loudly and affectionately for investigation. If the full bloom of exuberant health once marked and adorned these seats, and this bloom is fled, or fleeing away; it is certainly an object of prime importance to inquire, whence this DETERIORATION? Were I not persuad-

* This worthy gentleman was professor of Divinity. His death, which happened in June 1724, the author has never ceased to lament. To him we principally owe the MEDICAL INSTITUTION, founded here in 1722. By opening a correspondence with Principal Robertson and the Medical Professors at Edinburgh, he matured the plan, and lived to see it flourish. DR. WIGGLESWORTH first suggested to the CORPORATION the idea of establishing Lectures on Natural History. Confidence in his prediction enabled the Lecturer to continue them from that period (1728) to the present.

† PROFESSOR PEARSON remarks in a lecture, published since this was delivered, that "from 1769 to 1796, a period of twenty seven years, but nine deaths took place among the undergraduates. But from 1796 to the present time, a period of little more than eight years, sixteen students terminated their probation for eternity, before they had completed their academic course; and, what deserves particular notice, most of them died of consumption. During the period, first mentioned, the deaths were to the years, as 9 to 27, or as 1 to 3, that is, one death in three years. During the last period, the deaths have been to the years, nearly as 16 to 8, that is two deaths in one year. Hence it appears, that the number of deaths among undergraduates during the last eight years, compared with that of the preceding twenty seven years, has increased nearly in a sixfold ratio. A result, worthy of serious consideration; especially, when it is added, that four of these melancholy events took place in one year, and six of them in one class. In this connexion I am constrained to add that, during the two last years, and soon after receiving the first honors of this University, four others have been numbered with their deceased companions, alike victims to consumption."

ed, that it might be traced to a moral as well, as a physical source, I would not have appeared at this time before you. My motive is your welfare and the happiness of your parents; for what are riches and knowledge without health to enjoy them? But alas! the young, the gay, and the giddy abuse health through ignorance; and when better informed, some of them refuse to stop, or lend a listening ear to the warning voice of Nature and common sense; while "he that taketh heed prolongeth his life."

It is proper to inform you, that we are led in the order of instruction to speak, at this period of our course, of those disorders, which mankind BRING UPON THEMSELVES BY THEIR OWN IMPRUDENCE.

It was a sagacious saying of one of the ancients, that "GOD sends ACUTE diseases, but CHRONIC disorders we create ourselves."

ACUTE diseases are such, as proceed with rapidity, and terminate soon; such are violent fevers, plurisies, quincies, and epidemical disorders. They are generally owing to a cause, that "walketh in darkness," being such as prudence could not obviate, nor our prescience guard against. The superstitious are apt to ascribe the most dismal diseases and most shocking accidents to the anger of invisible beings; thus when the plague was desolating the Grecian camp, instead of resorting to human remedies, they had recourse, like our Indians, to incantations and enchantments.

CHRONIC diseases are those, that come on slowly, and continue long. We place under this head *depraved appetite, jaundice,** and the long and gloomy train of *nervous disorders*. To these we may add *gout, asthma,† palsy,* and *apoplexy*; as well, as that imbecility or morbid derangement of the absorbent system, occasioning *dropsies*; which is accompanied by that generally depraved habit

* That species of jaundice, especially termed *Icterus mucosum*. See Van Swieten §950.

† That species, denominated *asthma flatulentum*; which, like the gout, palsy, and apoplexy, takes its origin from long continued affections of the stomach.

of body, known among physicians by the name of *cachexia*; all of which are owing to *chronic weakness*; the source of which is an *imbecility* of the digestive organs, occasioning errors in "the first concoction," which deranges the whole chain of processes, occurring between chylification and sanguification.

Perfect health requires the temperate action of the vital influence through every part of the system. In perfect health food is sought with appetite, enjoyed with relish, and digested with facility. In perfect health every secretion and excretion is duly performed. Perspiration is neither deficient nor excessive. The breathing is free and easy, requiring neither conscious exertion, nor even a thought. The action of the heart and arteries with the consequent circulation of the blood is regular and placid; neither too rapid nor too indolent; neither laboured nor oppressed. In perfect health the body continues in the exercise of its proper functions without the least sensation of difficulty or embarrassment. The mind undisturbed by any violent emotions, agitations, or depressions of a corporeal nature, is in a state for exercising its noblest powers with tranquil vigour. The body is perfectly free from pain, oppression, hebetude, and every species of uneasiness; and a certain vivacity, not to be described, reigns throughout the system.* This happy, but evanescent condition, constitutes the "*mens sana in corpore sano*" of Juvenal, "*a healthy body and a mind at ease*."

The first derangement of this delightful state is felt in the stomach. Its faculty of communicating impressions, made by various substances taken into it is such, that it seems more like a nervous expansion from the brain, than a mere receptacle for digesting food. We shall speak of this faculty hereafter; and confine our view at present to the function of digestion.

Digestion is the selection and conversion of some foreign pabulum or food into our own nature. There are within us two

* See an Essay of Dr. Cogan's on the subject of health.

organs, performing at the same time two different kinds of digestion; for while the stomach is digesting *solid substances*, the lungs are digesting *air*.* Digestion of solid substances by the stomach is the conversion of food into chyle, and of chyle into blood. A regular supply of this milky fluid is necessary to recruit and repair those parts of the animal machine, that are incessantly wearing down, and passing off, by the very actions requisite to life. When this function is impaired and much deranged, the patient languishes, becomes emaciated, faints, and at length dies. If digestion be well performed, that is completed within three or four hours,† the chyle is proper, be the food ever so various. Blood formed from this chyle is natural; the secretions and excretions are regular; and health, strength, activity, and cheerfulness ensue. But if digestion languish, the contrary of this will happen, be the food whatever it may.

That the Lungs *digest* air may be to you a novel doctrine. These vital organs are made up almost entirely of two sets of vessels, one conveying air, the other blood. When we inhale atmospheric air, these organs in the action of breathing separate a portion of that inspired mass, called *oxygen* or *vital air*,‡ which

* While man, quadrupeds, and birds, select and inspire *oxygenous gas* from the atmosphere, by their *lungs*, fish inhale the same vital principle from the water by their *gills*.

† *Marshal Biron*, who had a remarkable keen appetite, was killed by a cannon ball an hour after dinner. On opening the body not the least trace of food was to be found in the stomach.

‡ Dr. PRIESTLEY was the first who demonstrated the existence or identity of oxygenous gas, or, as he called it, *dephlogisticated air*. That there was such a principle in the atmospheric air was known long before. Not to mention Dr. Hook and Mayow, who were cotemporary with Boyle, if we turn to the article AIR in *Jame's Medical Dictionary*, which article is compiled from the writings of *Aynaldus de Villa Nova*, and *Boerhaave*, we shall find the following account of the *acidifying* principle in the atmosphere. The upper surface of the blood, says Boerhaave, that is exposed to the air is of a bright scarlet, while in every other part, which the air does not come at, grows as black, as the blood of the cuttlefish; and yet as soon as ever this black part is laid open to the air, the black colour is immediately changed into a scarlet. This vivifying principle in air, so necessary to the support of flame and fire, as well, as animal and vegetable life, seems by every phenomenon to be the *universal acid*, distributed through the entire atmosphere, in a certain proportion; inasmuch, that no portion of air seems to be without it. It is this acid, that corrodes

entering the blood vivifies and animates the whole frame; and actually becomes one of the constituent principles of our bodies. Between this *oxygenation* of the blood through the lungs, and the digestion of the food by the stomach there exists an inseparable sympathy and a beautiful balance. When the stomach is loaded with a superabundance of food, we pant for breath. When we breathe the oxygenated air of the mountains or of the open ocean, we feel not merely a keener appetite, but a greater quantity of food than ordinary will be digested without oppression of the stomach, or labour of the lungs. In fewer words, it is oxygenation, that excites the dormant energies of the brain and nervous system, which invigorates every fibre, giving strength for debility, and activity for sluggishness.* Such is the conspiration

the baser metals. By this acid the calx of vitriol, of alum, and the earth, from which nitre has been procured, are again replenished in such a manner, as to be capable of producing acid spirits afresh. There is reason to suspect, that flowers are obliged to this acid for their beautiful colours. Dyers of scarlet cannot strike that colour without the assistance of an acid. Hence the phenomenon of the surface of the blood, when exposed to air contracting a redness, may be in some measure accounted for. All concerned in dying observe, that a cloudy moist air interferes with the beauty and vividness of their colours; and that a serene sky exalts them, and makes them more elegant. This acid of the air finds some way of mixing with the blood. It is believed, that this *grand operation* is performed in the lungs, and that then the blood acquires a scarlet colour. *In what does this differ from the modern doctrine of OXYGEN?*

To persuade students of the present day to peruse any medical or chemical book, written anterior to 40 years, is not an easy task. They suffer under a notion, that all chemical and medical authors, prior to Black and Cullen, composed their works in the dark. Even the writings of the immortal Boerhaave are deemed but of little worth! It has been perhaps at the risk of reputation that I have recommended from time to time the writings of *Harvey*, *Boysch*, and *Willis* in anatomy; *Aretæus Cappadox*, *Prosper Alpinus*, and *Sydenham* in the practice of medicine; and *Wiseman* in surgery; *Arnaldus*, *Van Helmont*, *Stahl*, and *Boerhaave* in chemistry; *Ahrobandus* and *Geener* in natural history; *Mulpighius* and *Grew* in botany; *Hook*, *Hales*, and *Boyle* in natural philosophy; and *Lord Bacon* for the whole Encyclopædia.

He, who studies for example the old chemists, will thereby preserve his mind from being overwhelmed with admiration for the labours of *Black*, *Lavoisier*, and *Priestley*, great and important as they are. Medical students and young physicians thirst after new publications, without considering that book-making is now become a trade in Britain; where, instead of increasing the stock of knowledge, they are only pouring it out of one phial into another for sale.

* *Arnaldus de Villa Nova*, an excellent physician, chemist, and philosopher, who flourished about the year 1300, was not ignorant of this exhilarating

of action between the stomach and the lungs, and such the sympathy of both with the whole human system, that these organs are either primarily or secondarily affected by every malady, that flesh is heir to.

The first intimation of a chronic disorder is almost always felt in the stomach. That wonderful organ has a remarkable contractility, by which it applies the inner surface closely to the materials it incloses.* That distressing sensation, called "*a sinking*" at the stomach, is owing to a diminution of its power of contraction. The healthy contractility of this prime organ of digestion is not owing merely to the force of its own fibres, but depends on the joint energy of the whole system, corporal, and corporeal; for the more vigorously the stomach applies itself to its contents, the more speedily is digestion performed, and the braver does a man feel, the better does he walk, think, and write.

The disorder progressing, the patient is oppressed with listlessness and sense of weight over all his body; he becomes pale at certain intervals, and a sweat breaks out, irregularly in different parts of his body. Digestion is slow, in consequence of which the patient is distressed with mawkishness, sourness, heartburn, and nausea, with frequent calls for food, from a sense of *sinking*, not from genuine hunger. The distention of the alimentary canal by flatulency increases the distress of the sufferer. It is remarkable, that in this state of the stomach, wine is more eagerly desired, than at any other time.

The causes of the disorder continuing to be applied, sleep is disturbed and followed by torpor, bordering on stupidity; the

something in the atmosphere. He speaks of a clear, pure air, that makes the heart glad, the mind serene, the body lightsome, at the same time, that it accelerates digestion. He speaks of a contrary condition of the air, which disturbs the heart, darkens the mind, makes the body heavy, and retards and hinders digestion.

* It can be distended so as to contain five quarts, and contracted so as to contain less than half a gill.

patients eyes become hollow and lose their vivacity ; an universal debility most sensibly felt in the digestive organs, with an increased or morbid irritability, perverting their regular actions the pulse is quickened, the breath labours, cough comes on, and consumption follows.

When the fountain of health is thus disturbed, the smallest streams must also be deranged. Can we wonder then, that the *ultima vasculæ* and the *minima fibrille* of the organ of intellect are finally affected, occasioning despondency of mind ; or else peevishness, doubts, fears, wandering thoughts, and ridiculous fancies ? The disease seldom proceeds to this in very young persons.* As imprudence in youth lays a foundation for *Hypochondriasis* in certain temperaments in manhood, you cannot be too cautious of the first breaches on your tender constitutions. If in youth you transgress the first principles of nature, She may punish you in future life with a long and dismal train of NERVOUS DISORDERS, than which there cannot be a greater torment. A *nervous* man may escape volcanic eruptions, earthquakes, hurricanes, inundations, mobs, sieges, and revolutions ; but whither shall he fly to avoid heats and frosts, a lowering sky, and east winds ? To what city or village shall he repair, that is not infested with creaking doors, jarring windows, screaming children, and fretful inmates, to lacerate his *nerves*, and render him the most wretched being under heaven !

Having given you a description of cheerful health and of its deviation into gloomy disease, let us now see if we cannot discern some general cause or causes, producing this declension.†

Moral philosophers unite with physicians of the first rank in opinion, that all chronic disorders arise from either 1st. VEXATION OF MIND, OR 2d. AN INDOLENT AND SEDENTARY LIFE, OR

* See CULLEN'S distinction between *Dyspepsia* and *Hypochondriasis* §MCLXXII to §MCLXXV.

† Ut curvi norma rectum, ita morbi sanitas, says Gaubius—that is, as a curve line is the reverse of a strait, so is health of a disease.

3d. INTemperance ; or from the cooperation of any two of them ; or from the combination of all three.*

It is a melancholy reflection, that there are as many pressed down to the grave by chronic disorders, brought on by a troubled mind, as are cut off by acute ones. Envy, jealousy, concealed resentment, and the corroding discontents of a life of penury and neglect, have slow but destructive effects on the delicate mind and “ fine spun frame.” A man is often cheerful under the loss of a limb ; and long habit may render a deranged state of health tolerable ; “ *but a wounded spirit who can bear* ”

The first effect of violent grief or trouble of mind is deprivation of the powers of digestion. A man in the best health, the highest good humour and spirits, as well as good stomach, sitting down to dinner with his friends, receives suddenly some very afflicting news. Instantly his appetite is gone, and he cannot swallow a morsel. Let the same thing happen after he has made a hearty, cheerful meal, as suddenly the action of his stomach ceases, the whole power of digestion is cut off totally, as if it were become paralytic ; and what he has eaten lies a most oppressive load. Now what connexion is there between a piece of bad news and a man's stomach, full or empty ? It is, says *Cadogan*, because the animal spirits or action of the nerves, whatever be the secret cause of their power, are called off to supply and support the tumultuous agitation of the brain, and the stomach with all its appendages and secretions is left powerless and paralytic. In this case the lungs, which always sympathize with the distresses of the stomach, endeavour to relieve their oppression by a deep sigh.

The principle agent in the process of digestion is a peculiar fluid, secreted in the stomach, called the *gastric juice*. The quantity and activity of this singular liquor depend on the contractile

* If the reader will cast his eye over *Dr. Cadogan's* treatise on the *gout*, he will see how closely we have adhered to his principles, in this part of our lecture.

power of the digestive organ, as a proximate cause ; and on the energy of the whole system, as a remote one. In silent, long continued grief this fluid is deficient in quantity and depraved in quality. The chyle is of course vitiated and the functions of the stomach perverted ; its contents become sour, bitter, and rancid. The sufferer pines away for want of a nourishing supply ; an universal bad habit of body ensues ; a complication of disorders, succeeding each other always from bad to worse ; and unless the wretched person can subdue anxiety, he sinks under his misery, and dies, as is said, of a broken heart.*

In turning away from this sorrowful picture, I wish you to remember, that it is *the stomach which first suffers* ; and that whatever damps the spirits, injures that organ ; and we shall see hereafter, that whatever injures the stomach, depresses the spirits.

Let us now advert to causes more common and more applicable to the main object of this lecture.

The causes of *Dyspepsia*† or bad digestion, the grand inlet to all chronic disorders, arrange themselves under *two* heads. First those, which act upon *THE WHOLE BODY*, or particular parts of it, but in consequence of which the *stomach* is chiefly affected. Secondly those, which act *directly* and *immediately* upon the *STOMACH* itself.‡ To these we may add a third, viz. causes, which act at the same time upon *both*.

An *indolent* and *sedentary life* we place at the head of causes, which act upon the whole body : next to this

Trouble of mind, of which we have already spoken : and lastly

A rakish life.

Need we go far for arguments to prove, that the only rational creature on earth was destined to exercise and improve

* See Cadogan on the gout.

† From *δύς*, bad or difficult, and *πέπρω*, to concoct.

‡ See Cullen's chap. on *Dyspepsia*.

the faculties of his mind as well, as the powers of his body ? THE PARENT OF UNIVERSAL NATURE has imposed, kindly imposed on his children, the salutary task of moderate labour, as the best means of preserving their health and their innocence. He has in like manner encouraged them to exercise the towering faculties of their minds by the contemplation of His works ; and has given them a thirst after useful science, stimulating them to amend their natural condition. He has accordingly decreed, that the prudent exercise of the corporal and mental powers should strengthen each other. To live a life of indolence is to sin against one of the first laws of our Creator ; accordingly we find, that the offender is punished with loss of health and spirits.

The time, allotted to a lecture, is not sufficient to go into a description of the subtle operations of the body. We may remark generally, that our best health, strength, and spirits, depend on the good and natural state of the minutest and almost imperceptible vessels and nerves of the body. The little diminutive pipes and tubes, the extended continuations of larger vessels, must be kept free and open. I consider the body, says *Addison*, as a system of tubes and glands, or a bundle of pipes and strainers, fitted to one another after so wonderful a manner, as to make a proper engine for the soul to work with.* The strength of the heart and arteries alone in a sedentary life is by no means sufficient to keep up and perpetuate the requisite motion of the fluids through these capillary vessels ; but it requires the assistance and joint force of all the muscles of the body to propel and accelerate the circulation of the whole mass of blood, in order to keep these minute tubes pervious and clear.†

That sprightly vigour and alacrity of health, says *Cadogan*, which we feel and enjoy in an active course of life, that zest in appetite and refreshment after eating, which sated luxury seeks in vain from art, is owing wholly to *new blood, made every day*

* Spectator No. CXV. † Cadogan.

from fresh food, prepared and distributed by the joint action of all parts of the body. No man, says he, can have these delightful sensations, who lives two days with the same blood. To introduce new juices, the old must be thrown off; or there will be no room, there will be too great a plethora or fulness. In a state of indolence or inactivity the old humours pass off so slowly, the insensible perspiration is so inconsiderable, that there is no void to be filled; consequently by degrees the appetite or desire of supply must daily diminish, and at last be totally lost.* To this doctrine morbid indolence will reply, that this plethoric or crowded state of the system with all the disagreeable feelings, consequent thereon, may be removed by evacuating medicines. There is no reasoning with those, who had rather take a purge, than a walk; or an emetic, than a ride.

Some of you injure your health by too close application to study. Sedentary thoughtfulness will wear out the body, and generate diseases that shorten life. A dyspeptic stomach, emaciated body, and irritable feelings, compose the heavy tax, which men of fine intellects and deep study pay for their eminence. But there is a sort of lazy literature, a kind of suspended animation, which engenders many chronic diseases, that embitter and shorten life. This torpid state, in which mind and body are equally stagnant, occasions tasteless meals, perpetual languor, and causeless anxiety. Here the body is not worn, but rusts out. In this state, wine, ardent spirits, and tobacco are eagerly coveted.

Let us next consider impressions made directly and immediately on the stomach. †

* Cadogan was a disciple of the humoral pathology. To feel the full force of his reasoning, the medical student must advert to the distinction between plethora ad volumina, and plethora ad vires. See Gaubius. Path. Institut.

† Opportunities of looking into the stomach of a living subject are very rare indeed. I remember but two instances on the records of medicine. One was a woman, who was in the general hospital at Vienna in 1798. She had her stomach perforated by a wound, which could not be closed up. Through this wound her food might be seen. When any indigestible food created un-

To remove the sinking, dismal languor and dejection, brought on by offending against the first principles of our nature, men turn for a momentary relief to

INTEMPERANCE :

Which is commonly an application of stimulating and narcotic things to the stomach. But who shall define *Temperance*? a word like liberty, different in signification in different countries. Before you can adjust the criterion of temperance, you should visit some of the colleges on the continent of Europe, where a piece of bread, an egg, or an onion with a draught of milk and water, is thought a tolerable meal. There is however an absolute, determined temperance, measured by every man's unprovoked appetite and consumption; a mean, at which virtue takes her stand.

If a man go on daily taking more than he needs or can get rid of, he feels oppressed, his appetite fails, and his spirits sink. Then he has recourse to rich, stimulating food; and though he washes down each mouthful with a glass of wine, he can relish nothing. Thus distressed, he applies to the Doctor to give him an appetite! who, after evacuating him upwards and downwards, gives him aromatic bitters infused in wine or brandy, elixir of vitriol;* bark, oil of wormwood, steel, columbo; soap, aloes, and rhubarb; quassia and limewater. Some of these by giving contractility † to the imbecile organ afford a short respite to his sufferings. They may moreover effect a transient but fallacious relief by forcing the concocting powers to squeeze their crude

easiness, as *sour crout*, she took the oppressive food out with her fingers, and washed out her stomach with water, and this always relieved her, and revived her appetite. Milk was observed to curdle instantly, except when she had carefully rinsed out her stomach. In this case says *Dr. Helme*, the coagulation did not take place, till after some time, for want he supposes of gastric liquor. The coagulation could be expedited by irritating the inner surface of the stomach with the finger. Asses milk was longer in coagulating than cows milk. The last coagulated in a few moments. Eggs, and cheese were quickly digested, but not so soon as flesh meat. Vegetables in general were longer undergoing this process; of these potatoes, and carrots passed off soonest.

* Elixir of vitriol, if long continued, has a pernicious effect on the stomach.

† See page 11.

austere contents into the blood ; until at length oppressed, Nature resents the injury in the form of *gout, palsy, or apoplexy*. A skillful, honest physician, will say in such cases,—your cure can only be found in EXERCISE. A ride with the cheerful scenery of a new and beautiful country will give you health, vigour, and vivacity, sound sleep, and a keen appetite. But no drugs can act upon your blood and juices, like the joint force of all the muscles of your body, acting and reacting, as in a regular course of moderate exercise ; nor can any of our draughts and portions oxygenate your pulmonic blood, like the inspiration of the salutiferous air of the mountains.

“ The first physicians by debauch were made ;
Excess began, and sloth sustains the trade.
By chace our longliv'd fathers earn'd their food ;
Toil strung the nerves, and purify'd the blood.
But we their sons, a pamper'd race of men,
Are dwindled down to three score years and ten.
Better to hunt in fields for health unbought,
Than see the Doctor for a nauseous draught.
The wise for cure on exercise depend :
God never made his work for man to mend.” *Dryden.*

We have said,* that the causes producing chronic diseases, arranged themselves under two general heads ;—those, which act on the *whole body*, and which affect the stomach in a *secondary* way ;—and those, which act *directly* on the stomach, and affect the whole body through the medium of that organ ; that to these we might add causes, acting upon the *whole body and upi on the stomach* at the same time ; such for example as

Λ RAKISH LIFE. A rakish life is too well known to need a description. It is often a *halo* of misery, surrounding the brightest genius ! To point out its ill effects would be an insult to your understandings. I might as well labour to convince you of the blessings of health or the advantages of industry. I pass

* See page 14.

the subject over in silence, only remarking in the words of Martial,

“ *Balnea, Vina, VENUS** consumunt corpora nostra.”

Instances of young gentlemen sinking deep into the scandalous habit of drinking ardent spirits are very rare indeed ; yet it would not be difficult to prove, that there is and has been for several years six times as much ardent spirit expended annually here, as in the days of your grandfathers. Unruly wine and ardent spirits have supplanted sober cider.† Is it not the case, that some use them of that strength and in that quantity, which is not consistent with the regular functions of the brain ? ‡ Mainly, warmed by the generosity of youth, may think it consonant

* Beside the ordinary consumption, which is a *coughing up of purulent matter from the lungs with a hectic fever*, there is a *nervous consumption*, a *marasmus*, or *Tuber dorsalis*, of which these are the most striking symptoms ;—an irksome feeling of the whole body, with an increased sensibility and moroseness of temper. A painful tenderness of the eyes, with a dimness of sight ; and sometimes a suffusion of tears ; a ringing of the ears ; a disagreeable feeling in the skull, as if the membranes of the brain were twisted.* Not only a disinclination to study, but an inability to concentrate his ideas on any subject. With a failure of digestion, there is a sinking at the pit of the stomach, and a sensation, as if the whole tract of the bowels, with the *vesica urinaria*, were pulled down, and even scraped. There is a dull pain in the back of the neck, a frigid, disagreeable, shuddering sensation, passing down the back, alternating with internal heat. These symptoms are more distressing in the morning. The causes continuing, the function of digestion is ruined ; a leanness and dryness of the body ensue ; the countenance has a peculiar sallow cast, with a physiognomy expressive of unhappiness. *Front lata parum et dejecta lumina vultu.* Virg.—For more information read Piasot.

* Dissections show that, that process of the *Dura mater*, which passes between the two hemispheres of the brain, called the *falciform process*, is particularly affected. The *Pia mater* has been found burdened, and to coalesce with the brain.

† Until within a few years, it was so constant a custom for the collegian to bottle off his barrel of cider, that cellar rent was a charge in each quarter bill ; but no such thing exists at present. The cellars are unoccupied, while the “ *studies*” contain the QUART-*er*.

‡ OF ARDENT SPIRITS AND WINE.—

The art of procuring ardent spirits by distillation was a discovery of the Arabian chemists. They first obtained it from *rice* ; whence it took its name *arrac*. At present it is generally procured by the distillation of fermented liquors. In France it is drawn from wines. In England and in Germany from malt liquors ; and in this country and the West India Islands from sugar and from molasses. This ardent spirit, from whatever subject it is obtained, is found, if freed from its phlegm and gross oil, to be essentially the same. By repeated distillations this spirit is purified, when it obtains the Arabic name of *alcohol*.

with prudence to drink so, as to produce that exhilaration of spirits, which takes place just on this side intoxication; but I hesitate not to pronounce, that the repetition of such practices is pernicious to health and dangerous to morals. Cannot wisdom

WINE is the fermented juice of the grape, and contains *three* different matters: First a portion of MUST or unassimilated matter. Second a portion of *Præper* WINE, in which by means of fermentation a quantity of alcohol is produced. Third a portion of VINEGAR, produced by too active or too long protracted fermentation. In new wine the *must* will be most abundant; as fermentation advances the portion of genuine *wine* will be more considerable; if fermentation has all along been properly managed, *vinegar* will not appear in any considerable quantity. From the proportion of these several matters, depending on the period and state of the fermentation, the *qualitiet* of wine may be ascertained. See Neumann's Chem. Lewis' Mater. Med. and Motherby's Dict.

The GENUS or wine of the antients; that, which PAUL recommended, as good for the stomach, was a very different liquor from the wine, drank by the English, Irish, and Americans. The wine of the antients was the pure juice of the grape, rendered active by fermentation; for they were totally ignorant of ardent spirits; whereas our strongest wines contain a fourth part of this fiery spirit, while many of the cheap ones are a vile mixture of deleterious articles, justly ranked among the remote causes of our *nervous* disorders, palsies, and apoplexies. If one gallon of our strongest bodied wines be submitted to distillation, it yields one quart of spirit, that will burn when thrown on the fire. The quantity of sharp vinegar, contained in the same portion of wine, is not so easily ascertained.

We will now present you with a few experiments, demonstrating the pernicious effects of spirituous and vinous liquors, first on the stomach of brutes and next on the human.

In *Bavaria* during the years 1797, 1798, and 1799, the scarcity of fodder compelled them to destroy a great number of horses, employed both for the purposes of war and of agriculture. Dr. Pilger availed himself of this opportunity, and made a number of cruel experiments on nearly two hundred horses with arsenic, corrosive sublimate, barytes, opium, belladonna, hemlock; laurel water, *distilled spirits*, *wine*, and *vinegar*. After giving horses brandy, so as not only to exhilarate them but to make them stagger, and even to drop down; he found on opening them, that it shrivelled and contracted the stomach, gave a bloodshot appearance to the intestines, and produced congestion in the brain. But the effect of *vinegar* was the most remarkable. Concentrated vinegar excited the most dreadful spasms, and produced fatal symptoms. They became extremely weak before death; and in those, which were killed in this extreme weakness, the alimentary canal exhibited very little or no irritability on pricking its fibres.

That vinegar is destructive to the human stomach is known by its effects on plump, healthy females, who from a *silly* desire of looking delicate, that is *sickly*, swallow daily large draughts of vinegar. This *innocent* practice *only* ruins the digestive faculty, and thereby deprives the system of its requisite nourishment! The only standard of beauty is high health. Dr. Beddoes tells us, that in some of the boarding schools in England, a keen appetite and its consequence *colic* is held up by the mistress, as a dreadful evil; and that starvation and vinegar are encouraged, instead of being severely denounced. Emaciation, thus induced, leads to consumption.

devise a plan of social intercourse, independent of the stimulus of the bottle? It is said such plans existed in the city of GENÈVA, before the French inflicted the benefits of *their* liberty on that philosophic people.

From what has been said it appears, that some wine makes a twofold attack on our health and happiness. It attacks the stomach as wine, and returns to the charge in the form of vinegar. Hence in weakly stomachs, when the *ingesta* are composed chiefly of vegetables, and nearly on the point of acidity, a single glass of wine, nay half a glass, will turn the whole mass into so much thick vinegar. Then come *magnesia* and *lime-water* to neutralize the vinegar bottle! Who then but must see the absurdity of throwing a glass of wine into a *dyspeptic* stomach directly after a dinner, composed chiefly of vegetables? Yet it is constantly done to the unspeakable distress of the sufferer, agonizing with wind and acid. Physicians should endeavour to convince such patients, that wind and acid are not the causes, but the consequences of a torpid, imbecile stomach. They should be told, that when a healthy stomach is moderately filled with vegetables and *well* roasted, or *well* boiled meat, neither *air*, nor *acid* is to be found in the whole alimentary canal.

OF THE PERNICIOUS EFFECTS OF WINE ON CHILDREN.

The best informed European physicians condemn the practice of giving wine daily to children. It has become a prevalent custom of late in America, to give a glass of wine to such children, as are old enough to sit at table with their parents. If the opinion of experienced physicians have no weight with parents, the following well conceived experiment, being proof positive of the pernicious effects of wine, may possibly induce some to reflect a little on the subject.

A physician of great eminence in London gave to one of his children a full glass of sherry every day after dinner for a week. The child was about five years old, and had never been accustomed to wine. To another child, nearly of the same age and under similar circumstances, he gave a large China orange for the same space of time. At the end of a week he found a very material difference in the pulse, the heat of the body, the urine, and the stools of the two children. In the first the pulse was quickened, the heat increased, the urine high coloured, and the stools *destitute of their usual quantity of bile*; while the second had every appearance, that indicated high health. He then reversed the experiment; to the first mentioned child he gave the orange, and to the other the wine. The effects followed as before; — a striking and demonstrative proof of the pernicious effects of wine on the constitution of children, in full health.

This accurately executed experiment is related by Mr. Sanford, Surgeon at Worcester in England, and quoted by Dr. Beddoes in his *Hygiene*; who thus remarks on it, "that the deficiency of bile is full evidence of the injurious effect of wine upon the digestive organs in this double experiment." Yet we find that some physicians have learned their patients to attribute these very complaints to a *redundancy of bile*! and therefore prescribe *salt of wormwood*, and *rhubarb*; or *soap*, *rhubarb*, and *aloes*, inducing thereby a farther weakness of the digestive organs, the proximate cause of the disorder. My venerable preceptor, Dr. FOTHERGILL cured such complaints with fresh made *porter*. By the time London porter arrives in this country it contains too much vinegar to be serviceable in these cases.

Alabonet with a view to temperance forbid his followers to drink wine; and in order to correct their savage custom of eating raw flesh, as do the

Among the causes, which act directly and immediately on the stomach, we mentioned, besides ardent and vinous spirits, certain NARCOTIC substances.

NARCOTICS are soporiferous drugs, which induce stupefaction. It is the property of narcotics to exhilarate first, and then to relax and stupify. They invariably debilitate the organs, to which they are *immediately* applied; at length they have a similar effect on the whole system. At the head of this class of drugs we place OPIUM,* which is the milky juice that exudes from the heads of poppies, when incisions are made in them; and then gradually dried in the sun. To this class belong also *Cicuta* or hemlock, *Belladonna* or deadly nightshade, *Stramonium* or apple of Peru, and NICOTIANA or Tobacco.

The Turks, who were forbidden by Mahomet to drink wine, intoxicate themselves with opium. It is said, that some will eat more than an ounce in a day. We have seen, that nothing so effectually preserves health and prevents disease, as maintaining the tone and regular motions of the digestive organs; and there is no drug in common use, which renders them so torpid, and which so effectually stagnates their functions as opium. After destroying the energy of the stomach, it undermines the powers of all the other organs in succession, even to the organ of *thought*. Travellers inform us, that the visage and general appearance of the opium-eaters in Turkey are the most disgusting imaginable; even worse than our most abandoned rum-drinkers. Some of these miserable Turks have however mind enough left

Abyssinians at this day, he allowed them to eat any thing, that had *passed through fire*; meaning whatever had undergone the process of cookery. A century or two after his death, the chemists of his country discovered the art of drawing ardent spirits from *rice* by distillation. When these mahometans were reproached for intoxicating themselves with this spirit, which they called *arrac*, they replied, that *it had passed through fire*, and was therefore agreeable to the laws of Mahomet, as expressed in the Koran.

* GALEN was the first of the Greek writers, who mentions opium. It was but little used among the antients. *Paracelsus* and *Silvius de la Bois* brought it into vogue in Europe. *Sydenham* used it first in small pox.

to destroy themselves by the dagger, to prevent living or rather *breathing* a few years longer in a state of confirmed idiotism, which is the fate of most of them during the latter years of their existence. Thus much for *opium*:—but what shall we say of *Nicotiana** or our beloved TOBACCO?

With what caution should a man proceed in attacking a favourite of the people? A prudent man, one who wishes to sail quietly down the popular stream, would be disposed rather to flatter and applaud the object of their affections: But an honest man, who differs a little from him, commonly designated as a prudent one, can never flatter, where he feels a friendship. He will give the true character of a dangerous inmate, and warn his friend of the consequences of cherishing a viper in his bosom. You already perceive, that although we would give “fair play” even to a treacherous enemy, yet Tobacco has done and is secretly doing too much mischief to expect any more from us, than a severe trial and rigorous justice.

The great LINNÆUS has beside his celebrated *artificial* classification given us a *natural* one. In his *natural* arrangement he has placed Tobacco in the class *Lurida*; which signifies pale, gastly, livid, dismal, and fatal. To the same ominous class be-

* NICOTIANA, so called from *Jacobus Nicotius*, ambassador to the court of Portugal from Francis II. king of France. *Nicotius* bought some seeds of this plant from a Dutchman in 1560, who had just brought them from America. From this seed the plant was produced in France. *Sir Francis Drake* carried it to England; and *Sir Walter Raleigh* first brought it into fashion. The dried plant was afterwards imported in great plenty from Tobago, and hence it obtained the name of Tobacco.

Linnaeus places this genus of vegetables in the first section of his fifth class, which contains those plants, whose flowers have five stamina and one style, which expressed in botanical language is *Pentandria, Monogynia*. This genus has eleven species; one of which is called *Hyoscyamus* from its agreeing in several of its characters with the deleterious henbane.

Nicholas Monardus a German has written a folio on the virtues of tobacco. It is doubtless a valuable medicine, especially in cases where the *Digitalis* has been used without success. An English physician, Dr. Fowler, used a tincture of tobacco in 52 cases of dropsy, and found it efficacious in 49 of them. The same physician found it very beneficial in *Dysurics* from gravel. I have used it in such cases with satisfaction.

long Foxglove, Henbane, Deadly-nightshade, and another poisonous plant, bearing the tremendous name of *Atropa*, one of the Furies. Let us examine one of them, viz. Tobacco, its qualities, and its effects on the human constitution.

When Tobacco is for the first time taken into the mouth, it creates nausea and extreme disgust. If swallowed it excites violent convulsions of the stomach and of the bowels, to eject the poison either upward or downward. If it be not very speedily and entirely ejected, it produces great anxiety, vertigo, faintness, and prostration of all the senses; and in many instances death has followed. The oil of this plant is one of the strongest of vegetable poisons, insomuch that we know of no animal, that can resist its mortal effects. These are, without exaggeration, some of the *lurid* qualities of our beloved tobacco. Let us now see, if it can be agreeable to the laws of the animal economy, or consonant to common sense, that a plant with such qualities can act otherwise than detrimental to the tender constitutions of young persons.

The human organs are endowed with a faculty of selecting certain wholesome articles, and our digestive apparatus of assimilating and changing them into our own nature and substance. Beside this nutritive faculty our organs are endowed with a repulsive one, with certain instincts or perceptions, by which they reject whatever is unwholesome or pernicious to our well being. These powers and faculties, purely instinctive, are more or less possessed by every *healthy* animal. Man endued with reason has these instincts in less perfection, than the brutes.

The organs of the senses are so many guards or sentinels, placed at those avenues, where death is most likely to enter. For illustration let us suppose a man cast ashore on some uninhabited island, and roaming among unknown fruits and herbs with a desire to satisfy his hunger; he knows not whether, what he

finds be wholesome or poisonous. What *naturally* follows? The first examination, which the vegetable undergoes, is that of the *eye*; if it incur its displeasure by looking disagreeable and forbidding, even this may induce him to throw it away; but if it be agreeable to the sense of seeing, it is next submitted to the examination of the *smell*, which not unfrequently discovers latent mischief concealed from the sight; if not displeasing to the sight, nor disagreeable to the smell, he readily submits it to the scrutiny of the next guard, the *tongue*; and if the taste too approbate the choice, he no longer hesitates, but eating it, conveys it into his stomach and intestines; both of which, like faithful body guards are endowed with a nice perception and prompt action, by which, if what was eaten as wholesome food, should notwithstanding all the former examinations still possess a latent quality, injurious to life, the stomach is stimulated to reject it upward, or the intestines to expel it downwards. These internal perceptions and consequent exertions are the first and most simple acts of nature, being purely instinctive, constituting what physicians call the "*Vis medicatrix nature*," or reaction of the system.*

Let us suppose, that our hungry adventurer had fallen on the tobacco plant; he would find nothing forbidding in its appearance; to his smell it would be rather ungrateful; to his taste so nauseating, that it is surprizing, how the same man ever ventured to taste green tobacco twice; but if taken into his stomach, convulsions, fainting, and a temporary loss of his senses follow; accompanied with violent and nasty operations. If that, which is wholesome, affect the senses of animals with pleasure, and invite them to convert it into their own juices; and if that, which is unwholesome, excite disgust in smell, taste, and appetite, then would our adventurer rank this herb among poisons, and note it as one of those, which nature forbade him to use. Yet man by perverting his nature has learnt to love it! and

* See Mr. Mudge's essay on the *Vis Vita*.

when perverted nature excites a desire, that appetite or desire is inordinate and ungovernable ; for the reaction or physical resistance to evil will, like that of the moral, lessen in proportion to the repetition of the attacks ; and then those guards of health, already mentioned, desert nature, and go over to the side of her enemy ; and thus we see how intemperate drinking and immoderate smoking began their destructive career.

The first effect of tobacco on those, who have surmounted the natural abhorrence of it ; and who have not only learnt to endure it, but even to love it ; and who have already commenced the nasty custom of chewing or smoking, is either a waste or vitiation of the *saliva*.

The *saliva* or spittle is secreted by a complex glandular apparatus from the most refined arterial blood, and constantly distils into the mouth in health ; and from the mouth into the stomach at the rate of twelve ounces a day.* It very much resembles the gastric juice in the stomach ; and its importance in digestion may be imagined after listening to the words of the great BOERHAAVE. "Whenever the saliva is lavishly spit away, we remove one of the strongest causes of hunger and digestion. The chyle prepared without this fluid is depraved, and the blood is vitiated for want of it. I once tried," says this great philosopher and consummate physician, "an experiment on myself, by spitting out all my saliva ; the consequence was, that I lost my appetite.† Hence we see the pernicious effects of chewing and smoking tobacco. I am of opinion, that smoking tobacco is very pernicious to lean and hypochondriacal persons, by destroying their appetite and weakening digestion. When this celebrated plant was first brought into use in Europe, it was cried up for a certain antidote to hunger ; but it was soon observed, that the number of hypochondriacal and CONSUMPTIVE PEOPLE

* Boerhaave's Academ. Lectures.

† Females who spin flax, and the manufacturers of straw-bonnets suffer from the same cause.

"were greatly increased by its use."* The celebrated Cullen says, a constant chewing of tobacco destroys the appetite by depriving the constitution of too much saliva.†

One of the Kings of Spain was afflicted with a very offensive breath ; to remedy which the physicians advised his majesty to chew a composition of gum mastic, ambergrease, and other perfumes ; the use of which occasioned a great expenditure of saliva. The courtiers, either out of compliment to their sovereign, or, what is more probable, from the vanity of imitating their superiors, went very generally into the same custom. The consequence was, that they, who followed the fashion with most ardour, lost their appetites, and became emaciated, and consumptions increased so fast among them, that the practice was forbidden by royal edict.

Some do not eject the saliva ; but prefer swallowing the nasty mixture, which seldom fails to induce faintness, palpitations of the heart, trembling of the limbs, and sooner or later some serious chronic inconvenience.

After what has been said, who can doubt of the bad effects of constant application of powdered tobacco to the delicate membrane of the nose ; especially if they know, what a thin partition divides the olfactory cavity from the brain ††

I have been a Professor in this University twenty three years, and can say, as a physician, that I never observed so many palid faces, and so many marks of declining health ; nor ever knew so many hectic habits and consumptive affections, as of late years ; and I trace this alarming inroad on your young constitutions principally to the pernicious custom of smoking CIGARRS.‡

* Boerhaave Academ. Lectures. † Cullen's Materia Medica.

‡ Too constant use of strong snuff brought on a disorder of the head, which was thought to have shortened the life of a celebrated divine and accomplished gentleman ; "CUJUS ETIAM A LINGUA MELLE DULCIOR FLUEBAT ORATIO."

§ Cigarr, from the Spanish *Cigarro*, a little roll or tube of tobacco ; *Tobaci folia in tubulum convoluta*. A cigarr is a leaf of tobacco formed into a small twisted roll, somewhat larger than a pipe stem, of about 6 inches long. The smoke is conveyed through the winding folds, which prevent it from expanding ; there is however a small aperture made through the middle by a wire. The cigarr preceded the invention of the pipe. The best come from the Havana ; those most esteemed are made in the convents.

It is allowed by all, that since the foundation of this college the custom of smoking never was so general ; it is conceded by all, that individuals never pushed the fashion to such excess ; and it is confessed by all, that the inhabitants of this place never appeared so palid, languid, and unhealthy. I will not say with some, that symptoms of languor have been discernible in your public performances ; nor am I disposed to attribute it wholly to the causes mentioned in this lecture. I believe some of you study more, than is consistent with health ; and exercise less, than is necessary for persons of your age. I feel a particular solicitude for such worthy characters as become sickly by indiscreet diligence ; and I entreat them to consider, that the habit of smoking increases *muscular* indolence. Nor is this all— Smoking creates an unnatural thirst, and leads to the use of spiritous liquors. I will not vouch for the truth of the common observation, that great smokers are generally tipplers. They appear to be however different strands of the same rope.

Do you not GENTLEMEN, see clearly, that this nasty, idle custom includes the insidious effects of indolence ; the deleterious effects of a powerful narcotic fumigation ; and the pernicious effects, consequent to the use of ardent and vinous spirits ; destructive agents to men, but which act with redoubled force on the more susceptible frames of youth. I appeal to experience. I ask whether he, who indulges himself in this way, does not awake in the morning hot, restless, and dissatisfied with himself ? The sound of the bell grates his nerves. Even the

“ Prime cheerer, light,
“ Of all material beings first and best,”*

is an unwelcome intruder. He dresses with languor and fretfulness ; his mouth is clammy and bitter ; his head aches, and his stomach is uneasy, till composed a little by some warm tea or coffee. After stretching and yawning, he tries to numb his irksome feelings by a *cigarr* and a glass of wine, or a little diluted brandy. These disagreeable sensations will however come and

* THOMPSON.

go through the course of the day in spite of all his soporifics. By evening a handful of *cigarrs*, a few glasses of wine &c. remove by their stronger stimulus these troublesome sensations ; when he tumbles into bed, and rises next morning with similar feelings, and pursues the same course to get rid of them. Does this look like a faithful extract from the diary of “ a Blood ?”

I am entirely convinced, that smoking and chewing injures ultimately the hearing, smell, taste, and teeth. “ Good teeth,” says Hippocrates, “ conduce to long life” ; because he, who does not masticate his food properly, and mix it thoroughly with a due portion of saliva, will find his digestion fail ; and this failure will gradually open the avenues to death.

The practice of smoking is productive of indolence, and tends to confirm the lazy in their laziness. Instead of exercising in the open air, as formerly, you sit down before large fires and smoke tobacco. This hot fumigation opens the pores of the head, throat, neck, and chest ; and you pass out in a reeking sweat into a damp, cold atmosphere ; the patulent pores are suddenly closed ; hence arise disorders of the head, throat, and lungs. These causes, cooperating with those, already mentioned, produce those hectic symptoms and consumptive complaints, that have been multiplying among you to an alarming degree ; for this nasty custom includes the destructive effects of indolence, and the pernicious effects of the too frequent use of vinous and ardent spirits ; agents, destructive to full grown men ; but which act with redoubled force on the more susceptible frames of young gentlemen in the spring of life.

Some have said, and the observation carries with it a handsome compliment, “ that smoking cannot be an evil custom seeing most of the clergy follow it.” I am mortified that such authority can be adduced to oppose our advice. I will nevertheless venture to warn you, who expect to be clothed with the sacred function against this inconvenient practice, until you are

at least fifty years of age. As a sedentary man advances in life, he perspires less, while his lungs labour more. There is an accumulation of viscid phlegm among the inert and almost insensible solids of the lungs in elderly people, which in our cold months, especially in February and March, produces a kind of *chronic catarrh* or humoral asthma; for which smoking is beneficial. Here tobacco is a safe and efficacious pectoral. There is however a doleful difference between the case of a man of sixty five taking three or four pipes of tobacco in twenty four hours, and a boy of seventeen, who uses ten or a dozen cigars in that time. In one the cold and inert fibre is warmed and animated to throw off an offensive load; in the other it is adding fuel to fire; and irritating glands already sufficiently stimulated by his youthful nature.

* The gentlemen of the clergy drink sparingly even of wine, but many, who indulge in smoking, drink enormous quantities of hot tea, † which BOERHAAVE observes to be one of the pernicious consequences of smoking tobacco; as it assists to bring on hypochondriac and other dismal disorders. By forbearing to do what may innocently be done, we may add hourly new vigour to resolution. I can hardly believe there ever was a rigidly virtuous man, who became a slave to tobacco. To set the mind above the appetite, says the British moralist, ‡ is the end of abstinence;

* These paragraphs have been added since the delivery of the lecture.

† COFFEE and TEA are articles friendly to morals, seeing they frequently exclude the use of spirituous liquors. The French and Spaniards take coffee directly after dinner instead of wine; a custom, worthy of imitation. A physician is often asked, which is most wholesome tea or coffee? Either of them, made very strong, must be injurious; both, certainly suspend the inclination to sleep, and impede digestion. Tea or coffee of moderate strength, and drank with discretion, is found by experience friendly to the human constitution. *Old smokers* will sometimes drink a dozen dishes of tea, and destroy thereby the tone of their stomachs. *Young smokers* also suffer from the same cause. One of the most speedy methods of weakening the stomach is to smoke cigars, and at the same time swallow tea or coffee, and eat an enormous pile of toast, swimming in butter. We have said already, that the use of the saliva was to assist with the bile to mix butter and fat with the watery part of our food; but in such a meal the saliva is either spit or vitiated; and the incongruous mass is left to sour, because the principle mean of assimilation is withdrawn.

‡ Johnson.

and abstinence is the groundwork of virtue. For want of denying early and inflexibly, we may be inticed into the recesses of indulgence, and sloth and despondency may close the passage to our return.

* I hope that those of the clergy, who follow remarkably this custom, will receive kindly, what I utter seriously, respectfully, and affectionately. Strengthen, I beseech you, the hands of these youth, to relinquish a habit, which you know requires some exertion. If you want an excitement, look at that consumptive young man, whose emaciated figure strikes you with horror; see his forehead covered with drops of sweat; his cheeks painted with a livid crimson; and his eyes sunk; his pulse quick and tremulous; his nails bending over the ends of his fingers; and the palms of his hands dry and hot to the touch. His breath offensive, quick, and laborious; his cough incessant, scarcely allowing him time to tell you, that he smoked cigars without number, drank brandy and water, and wine; played daily on the flute§; and coming one night from a crowded musical meeting, caught cold; which being neglected, brought on a cough, short breath, expectoration of purulent matter, and night sweats; which soon hurried him on to what you see. †

Of the *seemliness* or *decency* of the practice of smoking and chewing tobacco more may be said, than you will have patience to hear. BOERHAAVE observes, that "it is allowed by the universal consent of the more civilized nations, that spitting in company is both unmannerly and nasty; insomuch that among the inhabitants of the East it was held in the highest detestation and abhorrence!" A physician should never use tobacco in any form, as some weak patients will taint at the smell. †

§ Playing on wind instruments as well as singing are pernicious to persons predisposed to consumption.

† Compare this with FOTHERGILL's description of consumption in LETTISON's edition of his works.

‡ The custom of smoking has for a considerable time past been totally banished from all polite companies in England. It is there confined to taverns and alehouses.

The fashion of smoking tobacco was introduced into England by *Sir Walter Raleigh* in the reign of JAMES I. The custom was followed by almost all the nobility and high officers of the realm to the great dissatisfaction of the fastidious monarch. So universally prevalent was this fashion, that his majesty could not readily find any one to write or preach against it. He therefore wrote a tract himself, which he entitled "*a counter blast to Tobacco,*" a copy of which may be seen in the library of this University. After exposing in strong language the unhealthiness and offensiveness of this practice, he closes with this ROYAL COUNTER BLAST.—"*It is a custom, loathsome to the EYE, hateful to the NOSE, harmful to the BRAIN, dangerous to the LUNGS; and in the black, stinking fume thereof, nearest resembling the horrible stygian smoke of the pit, that is bottomless!*"

To conclude.—The moral, to be deduced from our whole Lecture is, *the necessity of avoiding all predisposing causes to NERVOUS DISORDERS; and obviating the remote causes of CONSUMPTION.* Quit then this pernicious habit, I entreat you.—Take all your cigars and tobacco, and in some calm evening carry them on to the common, and there sacrifice them to *health, cleanliness, and decorum.*—But, should perversity withstand all the arguments adduced, we have yet one in reserve, that is irresistible. The dangerous tendency of these practices no one can doubt; therefore abandon the custom, LEST YOU PIERCE WITH ANGUISH THE HEARTS OF YOUR AFFECTIONATE PARENTS!

FINIS.