A

August 9th 1823

Of Consumption

If Pulmonary Consumption be not ranked among the *opprobria medicorum*, every learned & experienced Physician & Surgeon will acknowledge that there is no disease w^h wears out so many of the adult part of mankind as that denominated by the Greeks *Phthisis*, and few whose nature is left known, the nature of w^h & the mode of treatment less fixed. Its ravages are continually before our eyes, cutting down the brightest and most promising part of our species.

It ~~very~~ rarely occurs in very warm, or in very cold climates, where the atmosphere is comparatively fixed, but In the middle latitudes, where the weather is variable its destruction is the greatest. We are told by men distinguished for patient observation & accurate calculation that the consumption carries off a greater part of the population of Great Britain; and nearly a fifth part of that of France; and there is reason for believing that it destroys as great a proportion in these United States.

Is this disease in itself incurable? — Is it to be submitted to, like old age, as inevitable as the march to the grave, & beyond the art of man to arrest or obviate? Our origin and our termination are alike unknown. Mystery surrounds us; both diffidence & humility become us; yet must we submit, with Turkish acquiescence to

"pining atrophy,
"Marasmus, and wide wasting pestilence",*

without an effort?

Phthisis, or consumption has been noticed more than two & twenty centuries, still it remains the most frequent and most fatal of semi-chronic disorders; and there is none concerning which so various & so discordant opinions prevail. The task of clearing this subject from its apparent contradictions is therefore enough to stagger an Hercules in the art, much more an insulated Physician in these "ends of the earth".† He shall hardly escape the epithet of presumptive, who shall pretend to enlighten the chambers

* Milton.

† So denominated by the British.

chambers of consumption by dissipating its fatal habitus. We enter with diffidence the discussion of a solemn subject w^c has puzzled, divided & discouraged even the learned & skillful in all ages & countries. But as "no effort is lost"; we shall make an essay; peradventure the correction of our errors may lead to opening an avenue whose termination shall not always be an epoch at the grave. Every case of consumption is not absolutely hopeless. Should we be unable to add to the stock of salutiferous knowledge, we may encourage the young practitioner not to despair, or withdraw his mind from an active search after ~~for~~ a remedy for a disease, perhaps too hastily pronounced incurable. It shall be our part to collect & concentrate such scattered particles of knowledge as are already afloat on this important subject, & add a little of our own; and thus try to circumscribe the objects of the young practitioner's contemplation. And should we be unable to advance a step beyond our predecessors, we shall not be without hope that some younger, more active & more fortunate Physician may, by sifting those particles through a better understanding, give a clarified residuum valuable to suffering humanity. than the medical world at this time possesses.

Elementary writers denominate such diseases as proceed with rapidity & terminate soon acute; whereas chronic disorders are such as come on slowly and continue long. The first are often epidemical, & frequently owing to causes w^c prudence could not obviate, nor prescience guard against. But the malady of which we treat, hardly belongs to either; but seems to stand, rather or waver between both; for consumption will sometimes run rapidly to a fatal end in a few weeks; and ⊙, at other times, perhaps to six, eight, or nine months; and sometimes ~~to~~ years.

That state or condition of the body w^c we denominate hectic is the inseparable concomitant of the disease under discussion, & should be clearly understood at our first setting out

Hectic

Hippocrates describes hectic under the name of phthisis, w.c sometimes meant a tabed affection or marasmus, or emaciation without any affection of the lungs, accompanied with a long continued fever, or rather a sense of heat, the pathognomonic sign of fever, for his day ~~when~~ the pulse was but little ~~disregarded~~.

By the term hectic Galen understood a permanent habit, or a kind of chronical fever, which by its long continuance, & diurnal exacerbation partook the nature of a habit; for altho' it remits, it never entirely intermits, the pulse being rarely below 100, excepting in some phlegmatic temperaments. With a weak pulse, there is flushing & alternate sweats, or else a slight constriction of the dermoid system, and sometimes or diarrhoea. With a sense of heat, there is very little or no augmentation ~~of the heat of the~~ heat of body discoverable by the thermometer. Excepting when the hepatic system is disordered, the tongue is not furred; but its papillæ appear more prominent, & of a brighter red than in health, especially about its edges. A marked distinction between hectic fever & that of the ordinary, remitting or critical fever is in the unimpaired function of digestion. A full meal however taken at any time in the 24 hours will be followed by an exacerbation of its peculiar symptoms, w.c is accompanied by a sensation of heat in the palms of the hands & soles of the feet, but the symptom most visibly alarming, threatening, is the circumscribed redness of the cheeks, and then towards morning there is a profuse sweat, generally from the whole body, unless when the disease be idiopathic, and then the sweat is greatest near the morbid joint, or disordered viscus. At length the profuse sweat often changes to a diarrhoea.

At this stage of the disease, the emaciation is alarming, the hair comes off, & the nails curve; and sometimes severe head ache aggravates the sufferings.

Dr Thomas Young†, remarks that "the exciting cause of hectic is almost always some local disease and

† pertaining to the skin

† most commonly in the knee.

† Physician of St. George's hospital London

and generally a great, if not an incurable one, so that this fever says he, in the spirit of Hippocrates, Gaubius and J. Hunter, "seems to be a feeble & hopeless struggle of a constitution about to be overpowered, without any apparent tendency to the removal of the cause". He moreover adds, where the hectic symptoms are derived from a local affection, they generally correspond to the severity of that affection, or to the degree of danger; and if the diseased parts be removed, as by amputation, they will sometimes completely disappear in the course of a few hours."†

Notwithstanding what has been said Stahl-Hoffman and Cullen, nor have we have never given up entirely the humoral pathology, while we reject the Boerhaavian doctrine of a lentor, or viscidity of the fluids as the cause of inflammation and of fever, I still believe that the blood, & the other fluids are altered with the changeful altered fibre; and can find nothing absurd in the idea that contagions operate through the fluids from the surrounding atmosphere; and from the alimentary canal seeing the bile & urine are known to be absorbed, and other secreted healthy fluids reabsorbed & carried again into the circulation. Those fluids w.c carry with them a colouring matter afford proof of their entrance into the blood, & their passage through even those intricate bodies the glands. Nothing that either Cullen or Bordyce or others equally respectable have said, can diminish my belief that impurity of the fluids may produce local diseases; or that imperfect digestion must of course influence the qualities of the blood; and that all parts of the body may be morbidly affected from such a ~~the~~ source. Yet this belief does not militate against our doctrine of sympathy through the agency of the nerves, whereby the disorder of one organ instantly affects a remote one, as irritations of the bowels that of the eye; and the state of the stomach that of the skin, and even of the intellect, and during sleep in dreams.

† "A Practical & historical treatise on consumptive diseases". 1815.

From this digression we return to the subject of hectic, w.c like fever, can be better described than clearly defined

We now & then may observe a youth of sixteen or seventeen years, suffering under an irksome feeling throughout his whole body, w.c is more like an encreased sensibility in all his organs, occasioning at times an unusual morofeness of temper. He complains fretfully of a painful tenderness of the eyes, a dimness & confusion of sight, and sometimes a suffusion of tears; but not from any tumult in the mind. He has a ringing in his ears, a disagreeable feeling in his skull, especially in the direction of the optic nerve, with a sensation as if the membranes of the brain were twisting. He is impatient, and incapable of study, or even the lightest reading, and often the lighter the subject the worse.

With dejection of spirits & peevishness, there is a disrelish for the ordinary articles of food; and there is a manifest impotence of the powers of the stomach, in its double capacity, as the organ of digestion, & as the transmitter of fresh life & vigour to every part of the system, depending on the tension of the epigastric region, and resulting from the elasticity of the stomach, duodenum & diaphragm, or of our wonderful frame phrenic centre. With a deteriorating failure of digestion, there is a sensation of sinking at the pit of the stomach; and often another disagreeable feeling, as if the whole tract of the bowels, with the urinary bladder, were pulled down, and even scraped. In females this (disagreeable) sensation infests the whole uterine system. There is a dull pain in the back part of the neck; a frigid disagreeable shuddering sensation passing down the back, alternating with internal heat. These symptoms are most distressing in the morning. The unhappy causes continuing, the function of digestion is progressively ruined; a leanness & dryness of the body ensue; the countenance has a peculiar sallow cast, with a physiognomy expressive of unhappiness. This has been called by some, not of the profession! "a fever of the nerves." It certainly differs from the hectic of the arteries, as one is attended with night

From laeta parum, et dejecto lumina vultu. Virg.

night sweats, & the other an uneasy dry skin, in w.c the dermoid system sympathized with the deranged centre. It is accompanied in some temperaments with what the ancients called lipyria, a species of fever in w.c the external parts are cold, while the internal seem excessively hot; and sometimes this is reversed, when there is a morbid increase of the sensibility of the skin. In all this the patient is costive, and the urine is discharged with difficulty & uneasiness Dr Tissot has illustrated this species of juvenile hectic, to w.c we willingly refer.

If any remarkable debilitating cause should depress the powers of life at this age, I mean the commencement period of puberty, it produces that state of the frame w.c lights up the hectic fever, w.c alas! too often leads to consumption either directly, or indirectly predisposing them to scrofula. ~~that~~ w.c ends in consumption. We should bear in mind that the capillary system in youth is ~~very~~ differs different from that in a man who has lived 40 years. ~~This condition~~ The variations in its condition is visible to the acute anatomist, who can observe that from 10, or a dozen years of age to 20, the colour of the muscles is a brilliant red, and that they become less bright at 30; and which manifestly fades after 40 and goes on fading to extreme old age.

There are other cases, from other causes full as dangerous to health, if not so deplorable, and distressing in their symptoms. - I mean a certain degree of mental energy, or exertion w.ch is incompatible with safety. A sedentary life of close attention, intense study, or long mental exertion deranges the animal economy & abridges life. This is first felt in the stomach, or, during the first concoction.

There is a certain tension, energy, or elasticity of the region epigastric, comprizing powers stomachic, hepatic & phrenic, w.ch seems, if we may so speak to constitute the man. This wonderful organ the stomach, has a remarkable contractility, by which it applies the inner surface closely to the ingesta or intervals within it it encloses. This distressing sensation called "a sinking" at the stomach, is owing to a diminution of its contractile power. The healthy contractility of this prime organ of our bodies, is not owing merely to the force of its own fibres, but depends on the conjoint energy of the whole system, corporeal and corpreal; 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 stronger does he walk, the better does he think & write. Hence the bewitching effects of vinous & ardent spirits, whose primary ~~effect~~ operation is this, too agreeable, artificial contractility.

To the causes already mentioned, we may add the effects of grief or a troubled of mind. Envy, hatred, jealousy, concealed resentment, and the corroding discontents of a life of penury or hope deferred & neglect, have a slow but festering effect on a delicate & cultivated mind in a fine spun frame. The first effects of vexation of mind, ~~next to~~ is loss of sleep, or else profound sleep, in a vitiation of that singular fluid secreted in the stomach, and called in digestion the gastric juice, by w.ch the food is in the first instance dissolved. The quantity & acturity of this powerful solvent depend on the contractile 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 a digestible state, the success of

upon

and this brings

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deficient in quantity, and depraved in quality. In this state of the stomach all the chylopoetic viscera sympathize, the patient becomes listless, appetite fails, a mawkishness, soureness, heartburn & nausea follow: he is pale at intervals, & sweat breaks out unequally in different parts of his body. His eyes appear hollow & lose their vivacity; an universal debility, most sensibly felt in the stomach & bowels, with an increased, or morbid irritability perverting their regular actions; the pulse is quickened; the body emaciates; the breath laborious, cough comes on, and Consumption follows.

There is another condition, somewhat different in its approaches, but leading to the same end. It is marked by rapidity of thought & vivid flights of imagination. This state of body & mind occasions the hectic pulse, or else a pre existing rapid pulse produces this almost phrensied condition*. Such naturally feverish constitutions beings manifest a precocity of intellect, a forwardness of understanding, & sometimes a display of talent that is now & then astonishing. This early blow, or expansion of the human flower, while it pleases friends & flatters parents, alarms the physicians. It is sometimes accompanied by a virtuous & dreadful asiduity, & its fruits have been some of the finest specimens of genius; while in others less happy, it has been marked by paroxysms of profligacy enough to make a good man weep; for under this intoxication of animal spirits, or hectic of genius vice has been sublimated by infernal fire; and some sunk into the opposite extreme of torpor & dispondency, or moping melancholy, when they often try to regain their former fine feelings by means of inebriating draughts of wine, ardent spirits, tobacco or opium, while the philosopher, whose virtuous mind controuls his appetites, resorts, with the like view, to strong coffee & poetry—

In this flowing & ebbing of an inordinate spirit, the body at length suffers, and is finally chaffed out. While such burning & shining lights are blazing with a brilliancy that

* Hallucination in sense medico-

moping melancholy—

that excites public admiration, they are rushing rapidly down the torrent to eternity of time; for the rapid pulse, the fiery eye & the feverish brain do not endure long. Their operation is perpetually untwining the strands which compose the cords of life.† An accident of one kind

~~The rapid pulse, the fiery eye & feverish brain do not endure long~~ may direct the force of this incipient derangement to the brain, and injure its function; or an accident of another kind may direct it to the breathing organs, & then spitting of blood & their ulceration & consumption are the consequence: for the sanguiferous, or rather glandular system acts alternately, or in rapid succession, & not simultaneously. (But whether hectic fever gives rise to this rapid current of thought, or whether this "fine phrensy" produce that inordinate action of the arteries observable in such cases, we are unable to determine). The phenomena flowing from cordial liquors taken into the stomach, & of oxygenous gas received into the lungs by inspiration, possibly may illustrate this doubtful point. In some constitutions, temperament or habit & idiosyncrasies, when operated on by adverse accidents, as by madness, or the like, they supercede consumption, but most frequently, such paroxysms with a rapidity of pulse, & a corresponding ardent mind, cannot continue any considerable length of time without producing emaciation, & night sweats: with their debilitating effects, for when the lamp of life burns thus rapidly it consumes the flesh, occasions pain in the pit of the stomach, or in the direction of the diaphragm, & causes shortness of breath on little exertion, opening wider & wider the avenues to death.

Previously to these symptoms, or concurrent with them you may observe the sensible youth preferring unconsciously the sun shine to the shade, and shrinking from the encreased coolness of the autumn or spring evenings. Upon moving quick up an ascent

† Virgil died about 30 – and Raffaelle when he was not much older.

ascent, the breathing is hurried, short & stuffling. On a sudden change in the temperature of the atmos-phere from warm to cold with dampness, a little dry hacking cough is apt to follow. At length, the coughing recurs at shorter intervals, & with augmented violence, when the patient brings up a little clear mucus, wc. seems more like a simple irritation of the mucous membrane of the trachea than from any thing that previously existed in the lungs. At this stage of this insidious disorder, the cough is said to be increased on laying down, & some think that it is most troublesome when the patient lies on the left side. As the disease encroaches on life and gains ground, the cough grows more violent, & sometimes comes on so suddenly as to resemble a spasmodic asthma, or even the whooping cough. The matter expectorated is now more copious with less & less signs of clear and harmless mucus: at last it becomes manifestly purulent; his troubled forehead is now and then covered with drops of sweat*; the hair comes off for want of nourishment, the nails become dry & bend over the ends of the fingers; and all these signs of exsiccation is accompanied with a livid crimson cheek, one of death's dreadful signals of victory!

These too commonly fatal symptoms are noticed most frequently in youthful subjects enduring a very rapid growth of their whole frame. It here seems as if the extending power of the arterial system over came the modulating one; hence ardent passions, & bleedings from the nose, and from the lungs; and hence so many victims of a flattering intoxication of fancy.

In this simple hectic there was no original local disease operating as an exciting cause; but rather a teased constitution, temperament, or idiosyncracy

*Frons lata parum et dejecto lumina vultu. Virgil.

Cough is not a Disease by a symptom & symptom comrades – See Thompson

call it w.c you will, or all (!!)
idiosyncracy, struggling against the general
overpowering cause, ~~both~~ whether hereditary or
acquired, where the stimulus of thinking, breath-
-ing and digesting food chaffed too roughly ~~the~~
the fine spun, & over stretched frame of genius.
Yet with all this the organic, particularly the glan-
-dular system suffers more than the intellec-
-tual, which is bright to the very last. †

(a note?)

There is a heaviness, lebitude, or sleepiness that occurs to almost every sedentary person about 12 o clock in the day, or between 12 and one. Is this a febrile paroxysm; and is it the same affection as that w.c takes place about the usual hours of going to bed? Is it a natural diurnal condi-
-tion, which is strongly marked in a confirmed hectic? or is it a 20 four hour high or low tide in our ocean voyage of life, or our diurnal paddling along the rough shore of it. I make this remark to remind my reader that most disorders of the body are connected with a troubled mind w.c the wretched, that is the unwise try to palliate by stimulants, or narcotics

† See farther the chap on the periods of human life

Let us next take a view of a simple hectic in the female sex, and notice its peculiarities; previously remarking that the softer sex do not appear to be subjected to those septennial changes to w.c the rougher sex are incident. Then changes are more frequent & strongly marked

From the delicate frame, sedentary life and domestic habits, & fine mind, as well as from the fair countenances of the female, it happens probably that the commencement of hectic fever is oftener discovered & more easily discerned than among the active, hard countenanced & bustling youth of the other opposite sex, in whom the glandular & mucous system is more simple, & less irritable.

We are first alarmed with its appearance in the ~~softer~~ female sex between the age of 18 and 28. The fair victim of this wasting malady is observed to look paler than ordinary. There is a languor in her motions; a reluctance to exercise, & indifference to conversation, with a general cast of pensiveness. It is a melancholly reflection, that many young persons, and among them those who have shewn indications of becoming the most conspicuous ornaments of humanity, are pressed gradually down to the grave by trouble of mind. A person very often retains good spirits under the loss of a limb, and many females are cheerful under the painful & corroding effects of cancer, "but a wounded spirit" who can bear?" — This condition of body & mind is generally accompanied with ~~the~~ coldness of the feet and nose*. The appetite diminishes; she rather plays with her victuals than eats it; and when questioned closely, you will find she has an obtuse pain in the pit of her stomach; w.c is but other words for expressing the general condition of the langued system. We need not mention sourness in the stomach & cardialgia, the natural consequences of impeded digestion. At times, she feels a sensation of soreness, & now & then a lancinating pain in the direction

* Both depending on the want of due Tension of the epigastric region.

direction of the diaphragm. At this stage of the disease, there is often a fluctuating despondency; or else peevishness, with wandering fancies; & the eyes become hollow and lose their vivacity; and it is remarkable that when the hectic plants the cheek with crimson & scorches the hands & the feet despondency vanishes, & the eye acquires a brilliancy.

We need not remind the experienced Physician of the importance of watching carefully the state & aberrations of the stomach, that being the organ w.ch more especially points out the condition of all the rest. He knows that its faculties & its failures should never be lost sight of; he should bear in mind the wonderful attributes of this organ, & remember, that while thick muscular parts are capable of the sensation of pain and distention only, and others more complicated as the organs of the senses, are capable of many & peculiar sensations beside pain, no part of us is capable of such a variety of sensations as this important organ the stomach, in conjunction with the duodenum & diaphragm. Beside simple pain, & the sense of hunger, there is a sensation from the heartburn, so called; another from flatus and from over distention; from nausea, & that arising from anxiety; from low spirits; — from that depressing sensation, expressed often by the term "sinking" at the stomach; also several other sensations for which we want a name. All sudden shocks of surprize, and all causes producing terror are directly and immediately felt in that region whereof the pit of the stomach forms the centre, on whose energy, or languor our comfort so much depends. This epigastric region appears to be the Head Quarters of all our organic & animal's powers; for on the energy of this central influence depends the vigour of the ultimate vascular of the mucous, serous & glandular systems, as well as the arterial nervous and dermoid.

We

We should constantly bear on our minds the double office wc. the stomach is destined to perform;—first that of dissolving & reducing to one uniform paste or fluid the various articles of man's food; and secondly that of transmitting instantaneously fresh life & vigour to each & every part of the system, when certain stimulating substances are thrown into it; and even by the stimulus of thought. From this digression we return to our narrative of symptoms in the female subject.

After the stomach has laboured some time under complaints such as we have mentioned, more or less intense, there is now & then felt a shortness, or slight difficulty in breathing; to relieve which the sufferer heaves every few minutes a sigh, or deep expiration until, at length, her respiration is little else than a succession of these sad efforts to lighten an undescribable load about the epigastric region, comprehending the pit of the stomach, the diaphragm, & that portion of the duodenum, into which the liver, pancreas, spleen & certain remarkable nerves pour their influence.

At this stage of the malady there is no cough, nor extraordinary effort to expectorate, and but very little visible discharge of any sort through the fauces: but then there is a dry skin, a dejection of spirits, & a dreadful indifference to amusements, or dress, considering that this age is between the bud & the full bloom of female life. Emaciation soon follows this serious state of things, accompanied with a weak & very frequent pulse, urging on the two rapid wheels of life. The white of the eye acquires a blewish cast, & the tubercle of the canthus a higher colour; the same may be remarked of the gums, wc. gives good teeth a whiter aspect.* The edges of the tongue are florid, & its papillae more than usually turgid. This is probably the case with the internal parts generally in hectic, especially of the mucous membrane from the lips downwards through the stomach and upper portion of the intestines. What the condition of the mucous & glandular system is, as indicated by this florid

appearance

* Sound pearl coloured teeth in consumption was first noticed by Prof. Peter Camper in Holland, and then by Dr Frost Simmons in England.

appearance, is worthy enquiry.†

Other marks of an alarming nature now appear, as the brilliant eye; the abruptly defined damask cheek, and a voice though feeble, often, exquisitely toned, and not unfrequently a sudden propensity to shed tears. To the inexperienced these beautiful appearances are mistaken for the glow of health, and the unfortunate sufferer is sometimes forced to shew herself in public company against her inclination. But the skilful Physician reflects that these brilliant appearances arise without a competent supply of food, or of exercise, or the aid of good spirits, or regular & harmonious co-operation of the animal economy.* The disordered frame is now feeding on itself. The crimson cheek, and miserable smile of such a patient is worse than her tears; as they announce the breaking down of every part of the body, while the immortal faculties of the mind are often inaffably brilliant, exhibiting the hectic of genius, or the genius of hectic — denominate it which you will.

In this stage of the disorder, or rather disease for it now deserves that name, the patient relishes the open air rather than a closed room. In ascending stairs, or a rising ground, she, every day progresses with a slower step, and more difficult respiration. Even now, there shall be no cough, nor any one symptom indicating unequivocally the actual existence of tubercles, abscess, or ulcer in the lungs, or inflammation of the mucous membrane, the lungs only expressing the (alternate) derangement of the whole, the hectic of a peculiar sensibility, occasioning lassitude, & wasting is the consequence of this feebleness, & death the consequence of the waste. In cases of this sort, dissections after life have shewn the lungs but little altered in their structure, while the heart has been found small, emaciated, and its fibres flabby.*

Hyne-

* The Calamine, w.c. is a pretty certain indicator of the condition of the whole system, varies with these varying symptoms. Its irregularity is rather the consequence, than the cause of the general disorder.

† See p. on the subject of increased & decreased intenseness of colour in the muscular fibre —

It is remarkable, that while wasting to a skeleton, some patients are buoyed up with hope; and others dejected & discouraged, with, if we may so speak, with a drying up of the heart, w.c nothing can remedy, which, with the stomach is the organ that suffers most. — One dark stroke more finishes the sad picture. Some are very petulent & prone to anger; others, once repuled morose, are very tender minded, & susceptible to kindness. Sometimes near the close of life, after the wrists & hands swell, have a great aversion from, & dread of their nearest & dearest connexions. Both symptoms must be regarded part of the disease transferred to the brain. There soon follows an exhaustion of the heart and an evaporation of life.

Here I cannot resist making an observation w.c I shall have occasion to enforce hereafter; I mean the cruelty of sending young persons from the bosom of their families on distant voyages, when they often endure the violent concussions from boisterous weather, bad smells, & continued seasickness; and after all to die in a foreign land, among strangers; or in our own among people of another colour, who are hired, or, being slaves, compelled to attend them as nurses & companions, and who are officiously about them instead of their mothers and sisters, in the heart-rending scenery of approaching death!

There is another state or condition of the body, w.c some call febriculat; others chronic weakness†, and others after the ancients Asthenia*. It is an affection common to young persons of both sexes; but according to my observation, the males are most obnoxious to it. We shall follow Dr Willan's description of it in his reports on the diseases of London for its conciseness & justness.

The state of asthenia commences with general languor, a sense of lassitude, or aching of the limbs, and often with tremors. These symptoms are succeeded by shooting pains, head ach

†. Sir Richard Manningham; ‡. Dr. Withers. * Hippocrat. & Galen, by w.c term they meant one weak by nature & prone to disease, rather than actually sick.

head ache, giddiness, & a strong disposition to sleep, even in the day time. There is a sensation of faintness, or depression of strength referred to the stomach, wch calls for frequent supply of nourishment: but as this craving is not seconded by a proportionate activity of the digestive powers, an overcharge soon takes place, producing heartburn, flatulency, pains of the stomach, or nausea, with bilious vomitings & diarrhoea. Females with these symptoms, are often distressed with a pain in the left side, sometimes alternating with the pain in the stomach.

This complaint takes away the ability of any considerable corporeal exertions, and renders a long attention of mind to any subject not only difficult but painful. The temper becomes irritable fretful & capricious; the judgement defective and irresolute; the imagination suggests nothing but gloomy ideas, often extending to despondency. No taste remains for accustomed amusements; but every feeling, every sensation seems unpleasant. The night sleep is disturbed by frightful dreams & startings, and the patient awakes in the morning unrefreshed, or feeling as if much ~~wearied~~ bruised & fatigued. There is a general weakness of all the limbs, while the vital powers retain their full vigour; or, according to Sauvages, the debility of the voluntary motions is much greater than could be supposed from examining the pulse. But Dr Willan calls the justness of this remark in question; and contends that the pulse is in every instance much reduced in force; that in persons of the sanguine temperament it is weak & usually very frequent; but in melancholic habits it is always feeble, slow & languid.

We may obtain a clearer idea of this condition by enumerating its ordinary causes. These are sedentary occupations, — impure air; the irregular modes of living in a crowded city; anxiety. Those

are

Those are affected with it who live delicately, & withhold themselves ~~from~~ from no indulgence, but also labourers, & persons confined to a dull & unvaried track of business, and servants, especially those direct from the country, now occupied in houses of the rich & fashionable, where they have late and irregular meals, little sleep, confined air & vexation. These causes operate in all seasons; but in summer the complaint is much aggravated by the relaxing influence of a warm dusty atmosphere, to which may be added the stifling heat reflected from continuous brick walls, windows, and a burning pavement. How many are doomed to toil throughout a large portion of the year in such situations! who seldom enjoy the sun's direct rays in the colder seasons, or even fanned by a cordial breeze in the hot months! In the moments of languor & discontent, they have recourse to the delusive aid of ardent spirits, by which all their complaints are rendered more inveterate, and they droop, wither and pine: some, according to their occupation become paralitic; others according to exposure, rheumatic; some hectical, w.c. is soon followed by an exhaustion of heart, and an evaporation of life; or else they sink into a chronic weakness, & crawl to the grave ~~victims~~ by the short road of intemperance.

Persons thus affected & circumstanced either sink at once under typhus; or linger under hypochondriasis; or disorder of the hepatic system, while those of a scrophulous diathesis, or tuberculous disposition betray signs of consumption; ~~while~~ and some of a sanguine temperament are hurried out of life by a rapid consumption, preceeded by a severe & unremitting head ache; for when the harmony of the system is shaken, & ballance of the functions deranged, and at length destroyed, that part of the human machine most defective by constitution, the true asthenia of the antients, or weakened by accident, suffers; and

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the disease or distemper that most easily besets us arises, when every pulsation of life but aggra-vates the disorder, wh. ends in hectic. It behoves us therefore to enquire what is meant by hectic.

If we turn to the writings of the renowned Galen we find them a sort of lumber-room of almost every thing, where amidst rubbish are many things well worth the labor of searching out. From this col-lection we draw forth this fact, that in his day, and prior to it, that condition of the body wh. some called phthisis, & others hectic, was marked by a long conti-nued slow fever producing tabefaction, without our being able to accuse any particular part or viscus of failing in its assigned function in the economy. Galen therefore pronounces an hectical state to be an habitude, rather than a fixed & definite disorder; a condition, or disposition to many disorders, according to the situation & circumstances of the invalid. In his day, they sometimes confounded hectic with diathesis and even used the ~~term~~ word in opposition to that term, & finally they took shelter in the word habitude, wh. differs from diathesis in as much as one is a chronic affection, & the other acute.

In that state of labefaction & tabefaction, which is generically denominated hectical, we find post mortem, but slight marks of lesion in any of the viscera. On the contrary, we discover more marks of disorder in the mesentery, the connecting medium of the viscera than in any particular viscera whatever; that is, in the glandular system generally.

V. Y. 4.2 The simple hectic without emaciation, the hectica debilium of Dr Young is the slow fever of Galen. The second species is the marasmus, tabes or wasting without any remarkable affection of the lungs: the third hectica phthisica, or consumption of the lungs with cough. Among the varieties of hectic mentioned by Cullen, Sauvages & Willan, we would enumerate only the mesenteric

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decline, or tabes mesenterica, as it approaches nearest in its symptoms to the subject in question. It is described ~~by Dr Young~~ as commencing with more or less head ache, languor & want of appetite; and always with acute pain in the back & loins; by a sense of fullness, & as the disease advances, pain and tenderness of the abdomen; and by a chalky appearance & want of consistency in the alvine evacuations, and sometimes mixed with mucus and blood, attended with pain & tenesmus. The appetite is in some cases ravenous. On dissection post vitam, the absorbent glands are found en-larged & impervious. How far this leads to, or is connected with psoas abscess we are not prepared to say. Experience & the opinion of some of the greatest men in the profession in different ages and climates, compel us to believe in an ideo-pathic hectic. On this head Dr Young judiciously observes, "that in all diseases accompanied by a symptomatic, or sympathetic fever of this kind, the fever is a better measure of the degree of constitu-tional affection, and of the chances of recovery, than any other assemblage of symptoms that can be put in competition with it."†

We shall hereafter shew, that a consumption is not always a wasting of the body, depending on a disease of the lungs, but sometimes a wasting of the lungs de-pending on diseased viscera, extra thoracic, & even on a disease of some of the joints of the lower extre-mities, as the knee.

A gangrenous state of the lungs, wc runs its fatal course with great rapidity may be mistaken for genuine phthisis

† See Dr Thomas Young's Practical & Historical Treatise p. 19.

Let us now take a cursory view of the Lungs; or the breathing and vocal organ; and first of

The Stentorophonick Tube.

We are deceived & led astray by names in Medicine as much as in any branch of science whatever. We have associated the idea of cough with that of a diseased state of the breathing organs. We take oleaginous articles to quiet a cough; although we know that the remedy produces the desired effect by passing slowly down the œsophagus into the stomach, and not down the wind-pipe into the lungs; still we adhere to our notion that cough is owing to irritation of that membrane, or those folds which the oil comes not near. The correction of this, and some other ill founded opinions relative to the lungs, & the stomach, compels us to treat diffusedly of the breathing and vocal organs.

Every body knows that we breathe through the trachœa, asperia-arteria, or wind-pipe, denominate it which you will; for by these names we designate that natural speaking-trumpet, or stentorophonick tube, which, beginning in the lobes of the lungs, ends in the larynx, & resonant mouth: but every one does not know its peculiar structure, remarkable elasticity, delicate lining & universal sympathy.

This stentorophonick tube takes its origin in the vesiculæ bronchiales, or air vessels, wc arise in every part of the lungs. Though called vesicles, they are not all globular, or even oblong, for some of the cells are angular, wc gives a peculiar feel to the fingers when a portion of the lungs are clasped. All these cells, of whatever shape, are surrounded by a very fine network of arteries & veins, wc communicate every way with each other; and each air cell opens into a fine capillary tube, wc is membranaceous; but these beginings

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are so minute as to require a microscope to see them to advantage; They are in fact only objects of nice dis-
-crimination, when they have assumed a cartilaginous stru-
-ture. On each side of every one of these tubes, whether in the membranaceous or cartilaginous state, runs a pulmonary artery & vein, while a cellular substance, or fine, moist, spongy co-
-vering envelopes them ~~whole~~ all. a portion of the bron-
-chial & pulmonary artery terminates about each of these cells; but in a manner unknown; for it requires a glass of great magnifying powers to trace them ac-
-curately. It appeared to Professor Magendie to termi-
-nate in an infinite number of minute ramifications in the pulmonary vein; and that the small divisions of the bronchiæ, w.c end about the cells, do not penetrate into their interior, but finish suddenly when they arrive at the parenchyma. This last circumstance, says that acute ana-
-tomist, appears remarkable; for, inasmuch as the bron-
-chiæ do not penetrate into the spongy tissue of the lungs, it is probable that the surface of the cells, with which the air is in contact, is covered by the mucous membrane. Minute anatomy, however, cannot demonstrate its ex-
-istence in this place.

These minute bronchial ramifications as they advance, widen, & become more distinctly cartilaginous. They are so far from being entire rings, that they are not at first even segments of circles, but pieces or fragments. It is the main body of the vocal tube, w.c is made up of gristly hoops, with intervening ligamentary membranes, open at the back part; as their cartilaginous ends do not meet; yet is the circle completed by means of a firm, but delicate, elastic membrane, softened & lubricated by in-
-numerable glands. As the bronchial branches run on to the wind pipe, strictly so called, they diminish in number as they increase in size; just like the branches & limbs of a tree with reference to its trunk, until emerging from each lobe, they at last unite in that large, elastic, sono-
-rous tube, w.c ascending along the smooth bodies of the vertebræ, opens into the resonant mouth & nostrils, commu-
-nicating

communicating directly with the atmosphere.

Thus is the breathing-tube built up from an exquisitely fine capillary origin, till it acquires innumerable gristly fragments; and as it advances, these seem to coalece into segments of circles, woven and bound together by a strong, smooth, elastic membranaceous ligament. In the dead subject, they lie so near as to interfere with each other; being void of the elasticity of life; so that in drawing out the bronchia by its two ends, the segments are parted; but contract again when the force is removed. Hence the remarkable contractile, & dilatable power of the vocal organ; wc. is not like that of the arteries, but much stronger. Indeed, the whole of the pneumonic system is endowed with an extraordinary contractile & expanding faculty, necessary, no doubt, to this grand sympathetic organ, placed between the internal man, & all external nature.

It is hardly needful to remark that the bronchial artery and vein are simply sanguiferous, or humoral vessels, merely subservient to the lungs as a viscus, to nourish, & sustain the respiratory & vocal apparatus, and devoted entirely to its nutrition, incessant mutation, and as perpetual renovation, being restricted to the ordinary action of simple organic life, where nothing else is called for, than self sustentation, vital mutation, alternate growth & decay.

It therefore appears, that, by a confluence of minute tubes, made up at length of innumerable cartilaginous pieces, & imperfect hoops, bound together by a strong smooth, elastic & delicate ligamento-membranaceous substance, all thickly crouded with infinitely minute vessels, the main vocal tube is constituted. Its structure is such, that while it gives firmness, and due flexibility, wc. prevents it from sinking in, or subsiding by compression, it is endowed with a faculty of yielding to certain pressures & impulses without rupture.

This vocal tube expands not like the simple & uniform ex-

extremity of the artificial musical trumpet, or the stentoro-
-phonic one, nor like any other musical instrument in-
-vented by man; but it terminates in the very peculiar
one of larynx, resounding mouth, & nostrils, where, beside
the action of the epiglottis, resembling that of a reeded-in-
-strument, the voice is still farther modulated, by the
curiously moveable tongue, w.ch is capable of every kind
of inflection. The whole machanism is striking, but imi-
-table. Its variegated simplicity is wonderful! Compare
it with the best, & most perfect results of human con-
-trivance in forming a musical instrument, & con-
-fess that the hand that made thee is divine!

The whole of this vocal organ is lined by a mem-
-brane smooth, soft & very irritable, guarding by its ex-
-treme sensitiveness the avenues of life. It is owing to this
vis sensitiva that every duct, fibre, fibrilla & vesicle in the
breathing apparatus sympathises exquisately with different
parts of the body, not merely with the stomach, but with
each & every sensible part of the body, and with even
most parts of external nature through the medium of
the air, whether chemically influenced or mechanically
agitated.

This is a sketch, a prima linea, a mere unfinished
outline of the pneumatic, sanguiferous, & sympathe-
-tic apparatus, placed between the "homo internus"
and surrounding nature, which, from an almost im-
-perceptible begining, gradually expands into a voice-
-producing organ, destined to express every strong sen-
-sitive impression & intellectual impulse, an organ that
never sleeps, and which, from the wonderful combination
of the heavenly inspired alphabet, is capable of com-
-municating to others all ideas & passions whether joy-
-ous or sorrowful.

The object of this natural history ~~history~~ of the wind-
-pipe, from its minute vesicular origin, from its oxydat-
-ing vessels, & the infinitesimal single particles of air, and
caloric, operating by & through it chemically & mecha-
-nically, is to remind the reader, that every sonorous ex-
-pression

expression through this organ, however strong is not always an indication of the diseased state of it. The comparison of the structure & breathing oeconomy of fish, both with gills & lungs may further illustrate our own as they are non vocal, & live in a water sphere, pervaded by air, & the oxygenating principle

We pass by in silent admiration, the close connection between the breathing apparatus & the human intellect, wc. gives to man alone the high prerogative of speaking to his Creator; and shall consider it only as connected with pathology; confining it to the sentient & sensitive faculty alone.

These ever moving respiratory organs sympathize in a striking manner, not only with affections of the mind, but stamp them strongly on the countenance. They seem more immediately subservient to the impressions of the soul than even the heart itself, wc. appears to be rather a mechanical than a sympathetic part of the central influence, being to the stomach & lungs, according to Aretæus of Cappidocia, a "potens vicinus". These organs respond to every sudden & violent impression; yet are the lungs themselves, as a viscus, very little organic sensibility; although remarkably affected when pain is inflicted on distant parts, whether on the skin or in the joints. Its sympathetic affections are expressed by acceleration of respiration, sudden jump of the heart, alteration in the pulse, and a cough; or, when pushed to extreme, in the primary voice of nature, a cry, simple roar, or scream void of articulation when a man is suffering under the torture of the lash.

It is fortunate that our subject does not require us to specify all the vocal organs; it being not a very easy task to define them with precision. We shall only observe that the voice is formed between the lungs and the mouth. The epiglottis is that part on which, above all others the modulation of the voice principally depends, while articulation depends more on the

mouth,

mouth, teeth, tongue and lips. Is it impossible for the wind-pipe to yield a sound without the larynx? What is it that we have lately heard through the Ste-thoscope? Is mediate auscultation a real discovery in nature, or one of those medical whims that rise to day & to morrow is no more?†. Has the wind pipe divested of its larynx less power of uttering sound than the stomach & intestines? Or is it reserved to us the honor of first hinting the utility of a ventriloscope or Gastrodyscope?!

Let us leave these aeriform speculations to matters of more solidity — It appears from numerous facts, that painful affections, especially of the skin, and parts covered with a very sensitive membrane, more especially the stomach, or rather that portion of the alimentary canal which includes the œsophag-us & duodenum as well as the stomach, transmit their morbid feelings to the organs of respiration with the rapidity of thought, and that these organs have a peculiar expression of their own, w.c expression is sonorous, or vocal. In ordinary health any very sudden impression quickens the motion of the heart, lungs & diaphragm. The lungs betray sudden impressions by agitation, or flutter; or by deep & convulsive inspiration, or cough; but then the cough has its different ~~tones~~ grades of intensity, & tones of expression. It is found that sympathetic coughs are louder, & stronger than those arising from local affections of the lungs. The anatomist Valsalva gives us a case where every motion of the head occasioned a violent cough. The cause was found after life to have been within the skull: and Lieutaud mentions a fatal case of cough with purulent expectoration, in w.c the only morbid appearances were in the frontal & occipital sinuses. Sau-vages speaks of an obstinate cough arising from an irri-tation of the auditory organ. De Haen relates a most obstinate & untractable cough occasioned by a callous sub-stance in the uterus, and w.c ceased on its expulsion. Hence we

† See Laennac on Diseases of the chest, & his a constick instrument.

we see, not every cough is owing to irritating substances attached to the sensible membrane lining the bronchiæ or tracheæ, wc. require a certain velocity in the current of air for their expulsion, seeing morbid affections of distant parts produce cough, when there are no irritating foreign matters infesting them; for a cough is very often a sound made by properly adapted organs, in consequence of some internal sensation, or impulse, some distance from the lungs, as well as from local irritation, or stimulating particles floating in the inspired air.

It would seem therefore, that the vocal pipe emerging from the lungs is the part of our system destined by nature to express pain, irritation, or agony, by sounds denoting distress on the one hand, as well as joy & gladness on the other; notes of sorrow, or peals of laughter. If then the wind pipe be the speaking-trumpet of our internal nature, of each sudden & violent impression made somewhere upon us, how absurd would it be to attribute every expression ~~of it~~ from it to some disorder in the vocal organs themselves? We may as well call the diabetes a disease of the urethra; or say that the crying of a petulant child arose from a preternatural state of the vocal organs; or that their pleasurable agitations in a fit of laughter were from a similar cause. A man under the punishment of the lash, expresses his agony through the natural vocal organ; and a stout-hearted soldier, lashed at the halberts, disdains to cry, he is liable to spitting of blood; and to fatal inflammations in the lungs, or investing membranes, within the parietes of the thorax, in consequence of this unnatural suppression of the voice of suffering nature. Expressions of joy & of sorrow; the enthusiasm of singing; the shout of victory; and the convulsive peals of convivial laughter, may hence find their illustration, if not solution. In the ticklish, irritable, & glowing hectical state, the same thing happens, but with more intensity. Sudden noise quick surprize, a thought, a recollection, an inconscious association

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of ideas;- nay, the scratching off the head of a pimple, a dream, may excite a cough, that shall, for a few minutes, be irresistible. Sometimes we see the hectic of genius in both sexes,- that rapid action w.h accompanies precocity of intellect, where there is neither lesion, nor labefaction of any organ, producing similar effects.

Whenever the pituitory membrane of the nostrils is vellicated to sneezing, the tubes, ducts & vesicles of the respiratory organs are consentaniously affected; and it is as natural for the membranes, lining the breathing & vocal organs to cough, as for the membrane of the nostrils to sneeze; one is no more a mark of disease than the other.

If, independently of its manifold functions, we consider the lungs as a mere viscus, we shall find it rather an insensible organ. This might have been inferred a priori, from its inconsiderable nerves; for in certain hectical cases, the lungs have been found more than half consumed; the patient never having complained of pain. Even the very irritable mucous membrane is found in old Chronic catarrhs, to have lost, in a great measure, its characteristic sensibility. This membrane is crowded with glands (and a gland is an intricate assemblage of all our vessels in miniature) which, in health do not secrete an excrementitious fluid; but a thin, bland lymph that cherishes the membrane from the minutest air-vessel up to the glottis; preventing its becoming dry, by the incessant transmission of air into, & out of the lungs. When this fine lymph has done its office, it is straightway resolved into a subtle dew, or exhalation, & carried out of the body with the expired air; which is rendered evident to the sight in very cold weather. Yet is this sensitive membrane sometimes rendered torpid by a life of disease: such is the effect of certain chronic disorders.

Numerous facts conspire to show, that irritations & morbid affections of parts below the thorax, even low down as the bladder, & hæmorrhoidal veins, produce a convulsive action

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in the breathing organs, expressed by a cough. Although every cough be thus expressed ~~by the lungs~~ from out the lungs, through the wind pipe, yet frequently its pro-ductive, or exciting cause, springs from a remote part of the body; for such is the nervous & membranaceous structure of our frames, that an impression made on a distant part, instantaneously concusses another, like the stroke on the upper parchment of a drum, w.ch produces a consentaneous vibration on the lower one.

Again — when we liken the natural vocal tube within us to a trumpet, there is this difference between them; — the sound of the artificial one is caused by a flatus extraneous to the trumpet itself; and so is the mere sympathetic causes of cough. But in some cases, the cause of the sound, or cough is vitally united with it; so that the breathing-pipe has the power of uttering sounds, expressive of our feelings, & af-fections, whether grateful, sorrowful, or moribund; whether excited by the animal economy, or, organic life merely, or, in conjunction with the agitations of the soul. These sounds are not to be explained on merely mechanical principles; but must be considered the voice of nature, uttered by, or through a living breath-ing tube, whether it be in the torments of pain, the groans & sobs of a disordered body; or the inarticulate ejaculations of a wounded spirit.

Some coughs arise merely from affections of the superior portion of the vocal tube or larynx; w.ch is of a very singular structure; built up, like the body of the wind pipe, of cartilages, w.ch with the elastic trachea and numerous slender muscles, contribute to the completion, not only of the natural trumpet, but to its modulating key, the tongue.

The distribution of the nerves of the larynx is pecu-liar as it regards the epiglottis. If we divide the two recurrent nerves which go to the thyro-arytenoid mus-cles, the voice is immediately lost. The larynx is covered with a mucous membrane, w.ch at its entrance, is endowed with

Consult Laennec on sounds from the thorax

with extreme sensibility. But it is nearly impossible to convey an accurate idea of the larynx, unless we could see its operation in the living human subject. The cartilages, slender muscles, ligaments, nerves and vessels of the vocal organs are so numerous & complicated; & their nomenclature so overloaded with verbosity, that they serve to confound the understanding, and overwhelm the pupil in undiscerning wonder, rather than to fill his mind with just conceptions of the parts, and their uses. Surprise and humiliation must be the portion of the anatomist, when he considers, that every individual has a tone of voice peculiar to himself!

In a relaxed state of the muscles & membranes of these curious parts, especially of the epiglottis, there is an hoarseness, hollow voice, & cough, as in some stages of phthisis pulmonalis, w.c is merely from relaxation, removably by tonic gargarisms: and which should be distinguished from that whispering hoarseness, & faint hollow voice, that occurs in some conditions of the lungs in the latter stages of consumption; w.c is well known by the experienced physician, to be the harbinger of death.

This curiously complicated structure the larynx is subject to a peculiar inflammation, & consequent ulceration, emaciation, hectic, diarrhea & death; with all the usual appearances of genuine phthisis, while the lungs are in fact found free from any remarkable morbid appearance; w.c is a curious circumstance, & well worth attention in searching out the cause and cure of consumptions. In this species of consumption the cough is very severe, & occurs in violent paroxysms like fits of whooping cough, accompanied sometimes with retchings & vomitings. See more on this subject in Dr. Abercrombie's pathology of consumptive diseases.

This new view of the vocal organs has been written to convince the young American practitioner, that certain coughs have their origin, or primary seat in parts below

and

above the breathing organs themselves; and that the de-
-rangement, or labefaction of diseased parts, are often ex-
-pressed through the vocal organs, while those organs
themselves are totally free from disease. Not but that
the Lungs will actually become disordered, & be more than
half worn out by being very often, and for a long time,
called on to express the pain, & morbid affections of
this complicated machine, the human body, to wc they
are attached, and destined to be, through the agency
of the vital air, not only the vocal representative,
but the intermediate organ, or system between the
"homo internus", and external nature. From this
view of the Lungs & their relationship to the whole
human frame, we may, with as much propriety,
say, that every time a person sheds tears from either
joy, grief, or rage, that the cause is in the eyes, as
that every cough has its origin in those interme-
diate organs of human nature, because the eyes
and the wind pipe are the organs through which those
internal commotions are outwardly expressed.

These things added to the fact already adduced, &
wc may hereafter be mention, may lead us to believe
that the consumption, generally so called has its origin
& seat sometimes, in parts that are extra thoracic.
We entreat the reader to reflect a moment on the power
of sympathy, that associating principle which traverses
every nerve, fibre, & fibrilla of the body, pervading and
connecting all its wonderful functions, whether in a
healthy or moribund state, constituting that con-
fluscio una, conspiratio una, et consentientia om-
nia, so emphatically mentioned by Hippocrates.

Trans. from Elfs Insts Con- p. 89 —

Chapter.

The brilliant discoveries of modern days, among w^c. may be enumerated the microscope, telescope, & mariners compass have vastly amplified our views of nature. The demonstration of the circulation of the blood; the doctrine of electricity, of airs & gasses; the successful labours of the chemist, who have dissected light and analysed ~~the~~ and reduced the four elements, so called, to more subtle principles, have placed us on higher ground than were ever occupied by the ancients. From our higher position we see more & farther; but it has not followed that we have taken a closer view, or gazed more intensely on the objects immediately surrounding us. If the pages in the book of nature opened before them were but few, they bent on them their utmost attention, & studied them intensely. Hence the ancient physicians knew more of certain ~~dis~~ general distempers, as fevers; and were better acquainted with the medicative powers of nature, & the crises of diseases. Having no instruments for measuring heat, & detecting, & comparing moisture, they trusted to their own highly cultivated senses, wrought up by exercise almost to the instinctive perceptions of certain animals.

Everything that has survived the wreck of time, proves that the ancients studied nature with more success than we have. Need we mention their wonderful statuary? With eyes habituated to the closest observation, they contemplated humanity from its primordium to the grave

Warmth is friendly to man. And from what we observe in those animals next in rank to him, it is equally so to them. Provided by Nature with the means of comfort, and guided by unerring instinct, they seek & pursue what is beneficial, & avoid what would be destructive. The young of hirsute quadrupeds are kept warm, and comfortable by the fur of their dams; w.c is thickened remarkably on approach of winter in cold regions. Nature provides for the safety & comfort of certain birds in the same way. Of this the eider-duck is a curious example.

In the severity of winter in the polar regions, and even in our own latitude, certain animals have the faculty of collecting & eliciting sparks of fire, or electricity, by some inexplicable motion of their skins, or friction of their furs; from which fact we learn, that nature is careful to keep animals warm by more means than one; & that this power is increased in proportion to the severity of the cold. The brutal parent does not souse its young into cold water, to preserve ~~tender~~ their infancy from disease & death; as we are told to do by doctors wiser than nature. We see however, that pure ~~young~~ nature shudders at it, is grieved by it, and with tears & cries entreats your forbearance. In this respect some people treat their infants worse than we treat our dogs, cats or poultry. Web-footed birds, that are destined to live a portion of their time in water, are cased, & oiled, and fortified in a remarkable manner, lest dampness should have access to their skins. We, however, take a young child out of its warm bed, and plunge it into cold water; or dab it over with a wet cloth in the most tender parts of its body, to prevent its catching cold! *

Every

*An anonymous British writer thus describes the infantile horrors of the bathing-tub — "The sobbing & lamentations I heard before daylight in the nursery, when I spent the Christmas at my brothers prevented me ever after sleeping in the house again. The thought of the poor little innocents shivering & coughing at the edge of the bathing

Every farmer in New England knows, that it is very difficult, if not impossible, to fatten cattle if they be kept cold. He knows that a cow of the same size & qualities, and with the same food with another, will give nearly double the quantity of milk, and of a better ~~quality~~ consistence, if one be kept warm, & the other cold. They are so well convinced of this in the cold regions of the north of Europe, that their cow-houses are warmed by stoves & flues; and when these animals are turned out, in the raw, cold weather of spring, or late in autumn, the cover them round the body with hair-cloth. Whole nations act from a similar impression; & emigrate from north to south, and never from south to north: for people in a savage, or half civilized state, pursue comfortable feelings almost as instinctively as birds of passage.

The "hardening" of children was a fashion introduced by the Scotch. About the year 1760, after the British forces, who aided this country in the conquest of Canada, had returned home, & their regiments disbanded, several of their surgeons came over & settled in America as private practitioners. They were principally Scotchmen; ingenious, attentive, & well informed; well grounded in the Boerhaavian doctrines, wc then reigned in Holland & Germany, Britain & her colonies. Some of these gentlemen gave lectures on anatomy and surgery; and gradually took from our old women the obstetrick business; and by degrees, changed our practice of medicine for the better. Sprung from a hardy & needy race, inured to a sort of Spartan discipline, these sons of the mountains advocated that cold and rugged mode of life, which they & their ancestors pursued. Hence hard beds, cold bathing, & bare limbs became, in a degree fashionable. "Hardening" children as it is called, introduced amongst us by those foreign surgeons, & followed by most of our practitioners, has, in many instances, been pernicious.†

The

† This is a transcript of what we published in 1822 in our Essay on Tussis Convulsiva, Chapter IX; and we have been gratified that so respectable a writer as

The customs & habits of the poor & middling class in the highlands, & bleak islands of Scotland, differ from our own. "It is the practice in Scotland, says Dr Cullen, with people of all ranks, to wash their children, from the time of their birth, with cold water; and from the time that children are a month old, it has been the practice with people of better rank to have them dipped entirely in cold water every morning".

Practitioners from those regions quote the customs and manners of our north American Indians to strengthen their doctrine. But the customs & manners of our aboriginals differ so widely from civilized life, that one cannot be adopted by the other without risk of health. A child of one of our Indian Squaws is made to endure that degree of cold to wc its miserable mother is every year exposed. She will down on a cake of ice, & suckle her infant with as much composure as one of our ladies in an easy-chair, with a cushion of down. Take a child from a vast majority of our citizen's wives, who sleep on soft feather beds, surrounded with curtains; in a room defended by wainscot; or doubly defended by paper hangings; and a woollen-carpet; and where it is common to have a fire nine months of the year; — take a child of such a mother, thus habited & circumstanced; dress it very thin in the day; & cause it to lie on a hard bed at night; and next morning take it out of bed, before it is fairly awake, & plunge it three times into cold water, with a view to harden it, & render it less liable to sickness, is a procedure as absurd as it is unfeeling. ~~Yet have Seen this done~~. Yet have I seen this done in innumerable instances, by the advice & example of practitioners from North Britain; and that when the mercury was sunk to the freezing point in the house. Has this harsh & unnatural practice preserved children from

as Sir Alexander Christon coincides with us in opinion. See his Observations on pulmonary consumption, p. 75, published in 1823. His words are "The idea of making such children hardy, by a kind of Spartan education, such as dressing them lightly; exposing them to all kinds of weather; plunging daily in a cold bath

quincies & internal inflammations? or from kibled-heels, & yet stronger marks of scrophula? ‡

Every nurse knows, that when children are not sufficiently warm in the long nights of winter, they will not remain dry. It is this w.c makes early breaches in the constitutions of children, shortening their lives, either before puberty, or preparing victims for the insatiate maw of consumption soon after that period. It is cold combined with moisture, w.c lays the groundwork of future disorders, by altering the healthy balance between the distending & absorbent systems, w.c constitutes, in fact, the essence of scrophula.

I am confident there are many more lost than saved by this harsh process of hardening. Galen denounced the practice as prejudicial; & only recommends it, when the subject has passed from infancy to boyhood. Taking the class of scrophulous children at large, says Sir Alex. Crichton, there is not a more fatal error than this — a child had better have too much than too little clothing. If young & very susceptible subjects be not cut off by quincies, croup, internal inflammations, or dropsy in the brain, w.c commences with inflammation, this unnatural treatment lays the foundation for psoas abscess, rickets, & other symptoms of scrophula. It not merely developes has been the source of mortality among some; and of lasting infirmities with many others of these young people. From false analogies, the unhappy victims are abandoned to trials of cold air, and thin dress, until some alarming change in their health & appearance announces the mischief which is going forward within."

‡ The anonymous writer already quoted further remarks — "at this time it was the fashion (in London) to make children hardy, & my nephews & nieces were kept in a state nearly approaching to nudity; their linen dresses barely meeting the demands of decency. In this plight, they were daily sent out in all weathers to walk one hour, & to trail their listless limbs round the interior of a fashionable London square, for the purposes of air & exercise.

"The use of the bathing-tub upon the feeble organs of infancy, instead of expected health, produced shivering fits, fevers, & internal complaints as the reward of an impertinent interference with nature. The appearances of

developes that latent disease, but I believe generates it. For we well know that Scrophula is a native of the middle and changeable climates only.

It appears from estimates deduced from the bills of mortality in London, by Dr Clarke, & inserted in Dr Willan's reports on the diseases of London in 1800, that during a period of 40 years, commencing in 1760, & terminating in 1799, out of 836,285 burials, 281,408 were those of children who died before they attained two years of age; and of the remainder, 113,393, were of persons who died under ten years. In many of the years comprehended within the above mentioned period, more than one third of the whole number of burials was of infants who did not complete their second year. This prodigious mortality in early life is ascribed by Dr Clarke ~~chiefly~~ chiefly to the severity of the winters; the general variableness of the climate, & the improvident exposure of young children to cold, without sufficient attention to clothing, under the mistaken idea of rendering them strong and robust. He adds, all medical men, who have attended to the diseases of children, must have observed that those families in which children are least exposed to cold in winter, are generally most healthy; whole those who act on the erroneous principle of hardening them, by the exposure of their tender bodies to severe weather, are, scarcely ever free from disease." And it would seem that the ~~disease~~ disorder that most easily besets them is that denominated Scrofula, wc is a weakness & delicacy of the absorbent & lacteal vessels, wc are more easily torn by injections, than the same vessels in a healthy state. The contractile power of the living fibre is deficient & irregular; hence partial congestions, & irregular circulation follow.

Some

of consumption in one of the girls at length put a stop to these practices; and a new system springing up — flannels, a full meal of meat, with an occasional glass of wine became the order of the day. Even this did not answer, & the girls were put under the tuition of a drill sergeant, & taught the manual exercise; dumb bells & elastic boards mounted in the nursery as proper substitutes for liberty & the natural use of the limbs."

Some advocates of the chilling process have endeavoured to alarm with dreadful accounts of the baleful effects of heat. They remind us, that during the greatest heats of summer all organized nature appears to languish; the plant droops & wilts; the farmer is obliged to remit his labour, & repose his horses & oxen in the shade; that every exertion, whether of body or mind, is performed with reluctance; that excessive heat [between 90° & 100.] oppresses the labourer, & doubly so the studious man, & the boy immured in school.†

These alarmists quote Montesquieu to sanction their theory; as it respects heat of climate & situation on mental & muscular exertion. But do we not see bell-founders, & cannon-founders, blacksmiths, & glass-blowers as healthy as carpenters or masons? They tell us, that in very cold countries, during winter, all is torpid & lifeless; no vegetable thrives, & hardly lives above ground, the moss & terebinthenated trees excepted: and as to animals in the polar regions, those alone to whom nature hath given the peculiar means of warmth, by endowing them with electric furs, few enjoy life & vigour. The sleep away two thirds of their existence.

We, on the other hand, would remind <u>them</u>, that even in the torrid zone, under a vertical sun, the king of brutes, the Lion, the tiger, & many other noble animals, enjoy the utmost vigour, beauty, & hilarity, and betray even the fury of exuberant health, & activity. We have no business, however, with the extremes of situation, & of temperature; for it is remarkable, that in the very cold, & the very warm parts of the earth, they have neither consumption, nor general scrophula; disorders that belong exclusively to changeable climates, where cold is combined with moisture; for dampness exists but for the moment in the arctic circle, and under the equator. We say general, or internal scrofula; for Sir Alex. Crichton, who practised many years in Russia, tells us, that external scrofula & strumous disfigurations are oftener discovered in that country than in

† Turn to what has been said of asthenia p.

Great Britain; that in Russia its attacks are confined to the external set of glands, to the face, eyes & throat, & to the extremities of bones, while the lungs rarely suffer; except in public schools, & among those who adopt the European dress & fashions.

Should a healthy strong man, in a cold winter's day, break the ice, and plunge naked into the river, the sudden shock would constrict the skin, & all its vessels, and throw their fluids back on the lungs, heart, stomach, & other internal organs; the fibres of which being firm, healthy & elastic, send the blood back again to the surface of the body, with an agreeable glow, giving increased warmth to the whole system; vivacity to the countenance, & a keen appetite to the stomach. But, if the person be weak & timid, his fibre lax, membranes flabby, & circulation languid and stomach dyspeptic, he would endanger his health; the fibre of his internal organs not being sufficiently elastic for the requisite re-action. After profuse evacuations from the bowels, copious bleeding from the nose, or with a stomach empty and faint from lack of food, the danger of sudden immersion would be greater. The same, or worse would follow after great exertion of body, excepting when accompanied with great enthusiasm; after long & close attention of mind; or under the slow & depressing effects of grief. In such a state of body. ~~In such a state of body~~, sudden immersion into very cold water, would be attended with great risk. How many cold, languid, bluish-looking children & youth are injured by the injudicious use of cold water instead of warm?

The resisting & modulating powers of the living body are among the most wonderful things of our nature. Water will be consolidated to ice, at about 30 degrees of Fahrenheit's thermometer. But the living human body will maintain its own heat of 98° in an atmosphere of 15, or 20 degrees below 0: and, what is surprizing, it maintains its own heat of 98, in an

in an atmosphere, heated artificially, to 200 degrees:- whence we learn that the human body is endowed with the power of resisting, a long time, the destructive effects of heat; and the equally destructive effects of cold. This faculty has been illustrated & confirmed by experiments of Drs G. Fordyce, and John Hunter. The latter has shewn, that the powers of resisting heat & cold is vigorous in proportion to the danger of immediate destruction; and that animals resist the fatal effects of cold, so long as they remain dry; but when moisture is combined with cold, its effects are destructive; for it was found difficult, if not impossible to freeze a dormouse to death, until his hairy integuments were wetted with water; and then life evaporated. The extension of these ~~facts~~ principles will lead to consequences interesting to humanity.

Every person is surrounded by an atmosphere of his own perspiration. If this be blown away, and he be long exposed to the greater coldness of the common air, disorder in the body most commonly follows. Young children often suffer from this cause without being able to express their feelings.

It is a curious but well known fact, that although fatal effects are known to follow from being long wet with fresh water in very cold weather; yet such pernicious consequences are not the result of being wet with salt water, that is sea water. People have been shipwrecked on this coast of New England in winter, & remained 24 hours up to their necks in sea water, and survived; while their companions, who were only immersed knee deep, died. Accidents on our sea coast, & on our vast inland seas, or lakes, have proved, that people immersed in fresh water, in very cold weather, suffer more, & perish sooner than than those immersed to the same height in sea water. Sailors do not catch cold in the blue water of mid ocean; but sneeze & get colds & coughs, when they reach soundings, and still more when at anchor near the land. It may be

vain

vain to theorize on this subject. We who sojourn on the sea-coast of the atlantic know the fact.

We are led, moreover, to conclude from the experiments of Dr Currie, in England; and of others who went before him * that a considerable ~~xxxxxxx~~ elevation of the heat of the body above the standard of health, is incompatible with the process of perspiration; and "that at the temperature of 104 & 105, the vessels of the skin remain obstinately constricted, and the skin pungently hot to the touch of the bystander; and that it is only when it is reduced to 99° or 100°, that the orifices of the vessels relax, and a free perspiration diminishes the heat, & moderates the febrile condition. We are assured, that the free affusion of cold water over the skin is the most salutary remedy w.ch can be adopted in the hot stage of ardent fevers; and that it carries off the distressing sensation of heat, moderates the pulse, and renders the tongue cleaner, and moist; and lessens the pain of the head & limbs; and the whole febrile condition is greatly relieved, and the disorder abridged.†

We have collected & thrown together these various facts for the reader's consideration, that while we are correcting old prejudices, we may be preserved from new ~~ones~~ errors.

We in America adopted & pursued cold immersion & affusion with the same ardour that our predecessors adopted, mercury, tar-water, & electricity. But repeated trials has somewhat temperated our zeal. The philosophy of cold & warm bathing is in its infancy amongst us; and not too well understood in Britain; owing, probably, to our very variable state of the weather, from day to day, and from hour to hour. The practice of Asia & of Italy afford no rules for either Old England, or New.

Lest

* Dr Frances Pearce, of the Island of St Croix, in the West Indies, pursued the practice of cold immersion in fevers, more than sixty years ago. See his Letters in Pettigrew's Life & correspondence of Dr Lettsom between the years 1766 & 1788. Vol. 3.

† See Dr Currie.

Lest any one should suspect that we may be too much biafsed by a particular theory, or notion, we shall subjoin the opinion which the past century, & the present time afford.

Boerhaave, and we can quote no higher authority, after all; for he was as great in the practice of physic as in the chair of medicine. In rickets, a variety of scrophula, they should enjoy, says he - a dry & warm air. Very dry clothes, sufficiently warm, and rather of woollen than any other stuff.

The deeply experienced Heberden, who died in London 20 years ago, aged upwards of ninety, has left us this weighty admonition — Every physician in London, & every apothecary (practitioner of physic & surgery, as in America) can add his testimony, that their business among all ranks of people, never fails to increase & decrease with the frost. For if there be any whose lungs are tender; any whose constitution has been impaired by age, or by intemperance, or by disease, he will be liable to have all his complaints increased, & all his infirmities aggravated by such a season. Nor must the young & active think themselves quite secure, or fancy their health will be confirmed by imprudently exposing themselves. The stoutest man may meet with impediments to his recovery from accidents otherwise inconsiderable; or he may contract inflammation, or coughs, & lay the foundation of the severest ills. In a country (England) where the prevailing complaints amongst all orders of people, are colds, coughs, consumptions, & rheumatisms, no prudent man

man can surely suppose that unnecessary exposure to an inclement sky; that priding one's self upon going without additional clothing in the severest winter; that inuring one's self to be hardy, at a time that demands our cherishing the firmest constitution lest it suffer; that braving the winds, & challenging the rudest efforts of the seasons, can ever be generally useful to Englishmen. But if generally & upon the whole it be inexpedient, then ought every one for himself to take care that he be not the sufferer. For many doctrines very importantly erroneous; many remedies either vain, or even noxious, are daily imposed upon the world for want of attention to this great truth; — that it is from general effects only, and those founded upon extensive experience, that any maxim to which each individual may with confidence refer." London Philos. Trans. vol. 80.

We would remark here, that these observations and opinions of the venerable Heberden are as applicable in New England as in Britain; because there is a similarity of climate, that is wonderful, considering the vast distance between us. The customs, habits, food, habitations & mode of living in New Hampshire, Massachusetts, Connecticut Rhode Island, New York, Jersy & Pensylvania, and those of the South of England, differ less, than between the latter & Scotland.

Dr Fothergill in his "Observations on the weather & Diseases of London", in November 1751, says, "The conclusion of the last, & the beginning of the present month, were moderate; and the weekly Bills of mortality very little affected. After the cold & frosty weather set in, the burials increased from 319 to 395, and kept up nearly to the same number the week following. A more temperate, moist season succeeding, reduced them to 338. It has been frequently observed, and, as far as the Bills may be depended on is demonstrable, that an excess of wet, with moderate

warmth

warmth is not so injurious to our constitutions as a severe cold season. In his remarks for December 1757, he says, "no weather is in common so little productive of acute and fatal diseases as the warm & moist; nor any so dange-rous, in these respects, as the opposite."

How often has that excellent Physician remarked to me while riding through the streets of London, and noticing the thin waist coats of the young men passing on the side-walks, w.ch they very generally put on about Easter, — "now we shall have the annual silk waist coat fever".

That attentive observer, the late Dr Willan, who follow-ed the footsteps of Fothergill in his observations on the diseases of the city of London, says — "Induction, from the experience of many years, enables me to ascertain, that mild, open winters, and chilly, even though moist summers, are, on the whole, most favourable to the health of the inhabitants of London".

Because warm & moist weather favours the diffusion of contagious diseases, and because cold checks them, we in America have imbibed the erro-neous opinion that warm & moist season are unhealthy. It is true, malignant fevers, scarlatina, and a bad sort of measles are more prevalent in this sort of weather. But we speak here of the ge-neral state of the weather operating on all ranks & occupations of men, women and children.

From what has been said, it appears that the practice of immersion, or affusion of cold water on children, is not agree-able to the analogy of nature in hirsute animals, & birds of the air. We find the young of our own species, so far from delighting in it, express their dread & agonies under its operation. Neither the water spaniel, nor the goose wets its skin when diving and amusing itself in the water. On what rational, or analogi-cal principle is it then, that we enforce, & pursue a practice that is disagreeable to our nature, & dangerous to our health?

We, like our elder brethren in England, live the life of civilization. In winter, we dwell in houses warmed nearly or quite to summer heat. Grown persons endeavour by warm and

close

close clothing, to prevent their natural atmosphere of per-
-spiration from being blown away from their skins. But
the same care has not been extended to children. I once
noticed a child about six years old travelling in a stage coach with its grandfather in a
cold & blustering day in winter, all of whose cloathing would
not have weighed down the old gentleman's stockings. I
expostulated on the misery of the child, when its grandfather
observed that its mother did it to harden the boy.

The Russians pay great attention to dressing warm;
and when the English retain the fashion of their own
country, they suffer accordingly.†

There is a disorder to which children are liable in
this cold & variable climate, that comes on between the ten
and twentieth month, which shews itself by a gradual
wasting of the whole body. The muscles become flabby;
the limbs seem to decay, while the countenance ac-
-quires an unseemly aspect, wrinkled like an old
person, & of the hue of tallow. Some are costive, but
more the reverse. Sleep is disturbed, & their eyelids ap-
-pear tumid after sleeping: there is a thirst & great relish
for cold drinks. This extreme emaciation differs from
that wc. follows after fevers, measles, & simple diarrhoea;
and from that partial & irregular leanness observable in
the commencement of rickets.†

Whether the disorder arises from a defect of nutrition,
in consequence of imperfect lactation, or premature wean-
-ing, or whether it be the first signs of a scrophulous con-
-stitution we are unable to determine. In some instances
the intestines acquire a preternatural smoothness, from
a slimy, sluggish, cold & vapid state of them, ending in that
disorder called by some lienteria, & by others lævitas intes-
-tinorum. When it evidently verges to rickets, the ema-
-ciation is partial & irregular; there is a hanging of the neck,
& nodding of the head, with a look of fatuity, while there is ac-
-tually a forward acuteness of understanding, & quick sense
of apprehension. There is no deficiency of appetite, yet is there
that impoverished state of the fluids, wc. does not allow the sys-
-tem

† See Alex. Crichton. p. 53. See Hoffman.

system a due portion of bony matter. Do these facts give us more light into the nature of scrophula?

The general remedy for such disorders in children is said by Dr Cullen to be dipping every day in cold water; while Boerhaave relyed more on dry warm clothing, and the use of preparations of iron.

The old world must not judge of our advancement in Science by our Books. our written knowledge is behind our real or actual knowledge. We ∴ are not favorably situated & circumstanced. Dissections are rare & tickleish things in this country; hence our symptomatical description are more perfect w.r. our anatomical. If we see nothing but symptoms, we are aware of the uncertainty of appearances after life. Striking changes of structure are easily known; but how often are we puzzeled whether what we see be cause or effect?