

A popular lecture on the physiology of drunkenness : illustrating the evils produced on the human frame by the indulgence of fermented and spirituous liquors / by W. H. Dewhurst.

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A
POPULAR LECTURE
ON THE
PHYSIOLOGY OF DRUNKENNESS,
ILLUSTRATING
THE EVILS PRODUCED ON THE
HUMAN FRAME,
BY
THE INDULGENCE OF FERMENTED AND SPIRITUOUS
LIQUORS.

BY W. H. DEWHURST, Esq.
SURGEON,

*President of the Verulam Philosophical Society of London, Professor of Astronomy and Natural
Philosophy, and Fellow of many Learned Societies in England, Ireland, and America.*

"Drunkenness is the parent of almost every crime."

LONDON :

PRINTED AND SOLD BY J. PASCO, 90, BARTHOLOMEW CLOSE; AND
MAY BE HAD OF ALL BOOKSELLERS.

1838.

POPULAR LECTURE

ON THE

TO THE RIGHT HONOURABLE

PHILIP HENRY EARL STANHOPE,

President of the Medico-Botanical Society of London, &c.

THIS LECTURE,

ON THE PHYSIOLOGY OF DRUNKENNESS,

AS DELIVERED AT THE

TEMPERANCE SOCIETY, TOTTENHAM;

AT THE VERULAM PHILOSOPHICAL SOCIETY OF LONDON;

AND AT

THE MILTON INSTITUTION, FINSBURY,

IS MOST HUMBLY DEDICATED

BY HIS LORDSHIP'S VERY OBEDIENT SERVANT,

THE AUTHOR.

LONDON:

PRINTED AND SOLD BY A. LAROC, 90, BATHING-CHURCH, AND

MAY BE HAD OF ALL BOOKSELLERS.

1838.

A LECTURE, &c.

MY CHRISTIAN FRIENDS,

THE subject on which I intend to address you this evening, is a physiological disquisition on the effects of drunkenness on the human frame, in order that we may be the better able to impress the strict principles of temperance upon our friends. Drunkenness may be defined, in a physical point of view, as that derangement of the functions of the animal economy, which is produced by too freely drinking fermented or spirituous liquors. Drunkenness appears in different shapes in different constitutions: some it makes gay and apparently happy, some seemingly affectionate, some sullen, and others furious, even to madness. The serious mischiefs of drunkenness consist principally of the following bad effects:—1st, It betrays most constitutions either into extravagancies of anger, or sins of obscenity, forbidden by the laws of God and man. 2ndly, It disqualifies men for the duties of their station, both by the temporary disorder of their faculties, and at length by a constant incapacity and stupefaction. 3dly, It is attended with expences which can often be ill spared. 4thly, It is sure to occasion uneasiness and misery to the family of the drunkard. 5thly, It causes diseases of the functions and organic system of our bodily frames, and thereby shortens life. To these consequences of drunkenness, must be added the peculiar danger and mischief of the example. The talented and venerable archdeacon Paley truly observed, that “Drunkenness is a social festive vice.” The drinker collects his circle; the circle naturally spreads. Of those who are drawn within it, many become the supporters and corrupters,—nay, even centres of sets and circles of their own, every one countenancing, and perhaps emulating, the rest, until a whole neighbourhood is infected from the contagion of a single bad example. With this observation upon the spreading quality of drunkenness, may be connected a remark which belongs to the several evil effects I have mentioned. The consequences of a vice, like the symptoms of a

disease, though they are all enumerated in the description, are seldom all of equal violence in the same subject. In the instance under consideration, the age and temperature of one drunkard may have little to fear from inflammations of lust or anger: the fortune of another may not be injured by the expence: a third may have no family to be injured or disquieted by his irregularities: and a fourth may possess a constitution apparently fortified against the poison of strong liquors. But if, as we always ought to do, we comprehend within the consequences of our conduct the mischief and tendency of the example, these circumstances, however fortunate for the drunkard they may be modified, will be found to but little lessen the amount of his guilt. Although to many the waste of time and money may be of small importance, to some persons it will be of the greatest, who may be corrupted by this pernicious example. Repeatedly long continued excesses which may not seriously injure the health of one drunkard, may, in a very short period of time, bring his companions to premature graves. Intoxicating liquors have been principally used in all ages and countries, for the purposes of exhilaration and inebriation; but, in the eastern parts of the globe, in which the religion of Mahomet has interdicted the use of wines, other substances have been adopted, by which that, to them agreeable, derangement of the animal functions, which amounts to intoxication, is readily produced. In Turkey, the inspissated juice of the white poppy is eaten in large quantities for this purpose, and gives rise to very similar feelings; and which, when confirmed into a habit, brings on many diseases of the constitution, similar to those consequent on the potations of vinous liquors. In Persia, the leaves of *cannabis*, or hemp plant, are prepared in various ways, and swallowed as a means of intoxication, under the name of *bangue*. This substance is said to produce a pleasing sort of delirium, during which, the person under its influence talks incoherently, laughs and sings in a merry mood, he walks or dances, and exhibits many odd tricks. The fit is terminated by sleep. Sir Humphry Davy discovered that by breathing the nitrous oxyde or laughing gas, symptoms resembling intoxication are produced; but as yet our drunkards have not made use of it as one of their enjoyments,—its employment has only been confined to those interested in chemical experiments.

My sole object, at present, is to point out to you the nature and effects of intoxication, produced by the spirit of fermented liquors; which, whether under the title of wine, malt liquors, cyder, perry, mead, koumiss, &c., all yield the same

essence on distillation, viz. alcohol or spirit of wine, which is itself variously modified into the forms of gin, brandy, rum, whiskey, noyeau, and other liqueurs, by intermixture with colouring, sapid, and odorous substances. In some of the varieties of fermented liquor, in addition to the spirit, there is present a considerable portion of carbonic acid or fixed air, which is one of the products of vinous fermentation, and is disengaged by uncorking the vessel, and gives a sparkling and pungency to the liquors, such as cyder, champagne wine, bottled beer, &c. while it increases their intoxicating qualities. But this kind of inebriety appears to be of short duration, arising only from the temporary action of the gas on the nerves of the stomach.

The effects produced by fermenting liquor on the animal functions, arise principally from its stimulating power, or the power which it possesses of exciting the muscular parts to an increased rapidity and strength of action, as well as the nervous and mental qualities to an unusual degree of acuteness. When the animal functions are carried on with great languor and feebleness, from whatever cause, the general sensations of the body are uneasy, sometimes to a degree of pain. Thus after long fasting, want of sleep, fatigue, or disease, this condition of the frame exists, and prompts us to the employment of some stimulus, as food, the warm bath, and if in the extreme, a small quantity of tepid or fermenting liquor. Now the immediate effect of such stimuli, especially of fermented liquors, is the diffusion of a grateful sensation throughout the body. The languor and listlessness previously felt are superseded by a general pleasurable feeling of warmth, energy, and self-command, accompanied with an indescribable tranquillity and complacency of the mind. The countenance is enlivened with a glow of animation, in consequence of the free circulation of the blood through the cutaneous vessels and the renewed energy of the muscular parts, which were before languid and relapsed. From the same moderate excitement of the circulation and nervous system, the flow of animal spirits becomes more free and spontaneous, giving birth to lively conversation, to the flow of eloquence, and the sallies of wit: anxieties and corroding cares respecting the business of life are laid aside for the time, and good humour and cheerfulness prevail. "With those who are habitually temperate," observes Professor Lawrence and Dr. Thomson, "this degree of excitement, both mental and corporeal, is the result of a very moderate stimulus;" but taking nutritious food alone is adequate to produce the same beneficial effects, and even with greater advantage, by allowing sufficient time

to accomplish the process of digestion; and but little, or, in fact, no absolute assistance from fermented liquors is necessary, except in extreme cases, and then it may be medicinally used with benefit, but not in large quantities. The excitement of nature, aided with fine nutritious aliment, is sufficient to produce a healthy condition, and preserve the operations, various as they are, of the constitution, and, what is more, contributes to prolong and cherish the flame of life to its latest spark.

And, my friends, in the language of the medical poet, Dr. Akenside,—

—————“ Know, whate’er
Beyond its natural fervour hurries on
The sanguine tide: whether the frequent bowl,
High-season’d fare, or exercise to toil
Protracted; spurs to its last stage tir’d life,
And sows the temples with protracted snow.”

I have told you the benefits which fermented liquors confer on the frame of man.—Let us look at the evils they produce: let us view the other picture, and notice how few are the advantages, in comparison with the miseries, exhibited by frail humanity. If the intoxicating medium is increased, so is the excitement, and the increasing effects of the stimulation become obvious. The circulation of the blood becomes quickened, so that the whole surface glows with redness and warmth—the face is flushed—the eyes, which at first were brilliant and sparkling with animation, now become suffused with a degree of redness, from the blood being carried into the smaller vessels, which are ordinarily transparent. The muscles acquire a greater power of action, and an increased propensity to exertion ensues, whether to dancing, wrestling, or to whimsical gesticulations; and the mental faculties are in a similar manner aroused. Cheerfulness gives way to boisterous mirth: noise and ribaldry, passing with rapidity from subject to subject, succeed to the eloquence of rational conversation and chaste wit: the song becomes louder, and excessive laughter marks the high excitement of the mind. The passions and dispositions are elevated also beyond their natural character. “In the bottle,” as Dr. Johnson truly observes, “discontent seeks for comfort, cowardice for courage, and bashfulness for confidence.” In a word, the whole man—mind and body—is elevated by the employment of vinous liquors, in all his qualities and functions, far above the accustomed powers naturally inherent in his constitution.

This state of inordinate excitement manifests itself in various ways in different individuals, and also under the influence of

different species of liquor. Thus, intoxication from drinking porter or other malt liquors, which contain the narcotic substance of the *Humulus Lupulus*, or hop, or of other vegetables, together with much mucilaginous matter, and require to be drank in large quantities, is generally accompanied with more stupor than inebriation occasioned by wines, or distilled spirits; and the same may be said of the heavier wines, as compared with the lighter, or those which contain carbonic acid gas. But the variety of the symptoms of drunkenness, depends much more upon the natural disposition, and on the corporeal temperament of the individual, than on the species of intoxicating liquors. As in other species of insanity, so under the influence of intoxication, the inebriate feels not the blush of ingenuous shame, and commits many indecencies against virtue and morality. The doctrine of temperaments is not well understood; and it would be difficult to explain the peculiar actions of persons under the excitement of wine, upon the principles of such doctrine. But the ingenious Dr. Trotter, in his Essay on Drunkenness, observes, that in his opinion, "The sanguinous and choleric temperaments are most prone to resentment and ferocity, as may be observed in those whose countenance becomes very much flushed or bloated, with their eyes as if starting from their sockets: the former of the two is the most amorous and lascivious. The nervous temperament exhibits most of the signs characteristic of idiotism, and is childish and foolish in its drunken pranks. The phlegmatic temperament is difficult to be roused, is passive and silent, and may fall from the chair before any external signs of inebriety appear. The melancholic temperament, as when sober, is tenacious of whatever it undertakes, and shews the least of the inebriate in its manner. But all constitutions have something peculiar to them, and the shades of distinction blend so insensibly with one another, that distinction becomes difficult. On the whole, however, the sort of delirium which the fever of intoxication will produce in any individual, cannot be known *à priori*, either from the nature of the liquors employed, or of the disposition and temperament of the drinker. It will necessarily vary, like delirium under other circumstances, according to the particular sensations which prevail, and therefore according to the facility of derangement in different organs of the body, as well as to the general idiosyncrasy. So that the disposition of many persons, in a state of inebriation, is often observed to be the very reverse of their sober disposition: the placid man will become irascible, and the surly man kind and complaisant, in consequence, no doubt, of the new state

of feeling induced by the stimulus of the liquor. In this view of the subject, the adage "*In vino veritas*" is altogether untrue; for the natural disposition is changed, or represented in an unnatural light. And when even unaltered in kind, it is exaggerated in degree, so that it has been justly observed in the *Spectator*, that "the person you converse with, after the third bottle, is not the same man who at first sat down with you at table. Wine heightens indifference into love, love into jealousy, and jealousy into madness. It often turns the good-natured man into an idiot, and the choleric into an assassin: it gives bitterness to resentment, and makes vanity insupportable." In a word, intoxication exhibits the individual in a new and foreign dress, and infuses qualities into the mind to which it is a stranger in its sober moments. Hence, the justice, as well as the quaintness of the saying of Publius Syrius, "He who jests upon a man who is drunk injures the absent."

I shall not amuse you with a description of the follies and vices which men have been induced to commit in a state of drunkenness. Unfortunately, the public newspapers, and the records of our criminal courts, abound with them; and you, as intellectual beings, must from these sources be too well acquainted with them, to need repetition here.

If the habit of intoxication is continued, a very considerable change, both in the mental and corporeal faculties, takes place. This change is partly to be attributed to the debility which results from every excess of stimulation in the animal economy, and partly to the narcotic effects of the liquors on the brain, through the medium of the nerves of the stomach; but it is perhaps chiefly owing to the increasing pressure on the brain, occasioned by the increasing fulness of the blood vessels in that organ, from the continued stimulus to the heart and arteries. This conclusion is deducible, both from the phenomena which resemble the symptoms of oppressed brain from other causes; and from the consequences, in the last stage of drunkenness, which I shall presently describe.

The vivacity and active powers and propensities of the constitution are, through drunkenness, gradually succeeded by an imbecility of all the faculties. The corporeal strength is diminished, giddiness comes on, the voluntary power over the muscles fails, so that the attempt to walk is marked by a tottering and staggering, and the hands cannot be directed steadily to any object. The muscles of the countenance at length relax, the lip falls, the eyelids are half closed, and the nods, depicting the enervating condition of the once

robust, or at least, healthy frame. The muscular organs of the mouth, throat, and chest, become also enfeebled, and the powers of the voice and articulation are by degrees diminished. The eyes are no longer directed to the same focus by the muscles in the orbits, and vision becomes double or indistinct, as if a mist were floating in the atmosphere. The poet Thomson thus accurately describes these symptoms consequent upon this wretched vice:—

—————“Their feeble tongues,
Unable to take up the cumbrous word,
Lie quite dissolved. Before their maudlin eyes,
Seen dim and blue, the double tapers dance,
Like the sun wading through the misty sky.”

The debility of the mental powers keeps pace with the corporeal relaxation. The flow of ideas becomes more tardy and less various, till at length the conceptions are incoherent and indistinct, and the person is altogether incapable of conversation, and is silent, or mutters an unintelligible soliloquy. The sensations become extremely obtuse, so that external impressions produce no effect on any of the senses, and pass unregarded. The passions partake of the general enervation of the frame, and cease to excite any emotion, or to prompt any action or effort.

In this state of intoxication there is a considerable resemblance to the condition of the poor maniac, in respect to the power with which the body resists the action of cold, and of contagion, as well as of its insensibility to pain.

No stronger proofs of the power of the constitution, under such a state of drunkenness, in resisting the operation of cold, need be adduced, than what is observed daily among our sailors in the great sea-ports, and which is thus forcibly described by Dr. Trotter:—“These men are permitted to come on shore to recreate themselves; but, from a thoughtlessness of disposition, and the cunning address of their landlords, they drink until every farthing has been spent, and then they are thrust out of the door, and left to pass the night upon the pavement. It is surprising how they should escape death upon such occasions; for I have known many of them who have slept on the street the greatest part of the night, in the severest weather.” The following fact, which I shall relate, also affords a striking illustration of the resistance of cold under similar circumstances:—A miller, very much intoxicated, returning from market late at night whilst it was snowing and freezing very hard, missed his way, and fell down a steep bank into a mill dam. By the fright and sudden immersion, he became so far sensible as to recollect where he

was. He then thought the surest way home would be to follow the stream, which would take him within pistol-shot of his own door. Instead of taking that course, however, he waded against the current, without knowing it, till his passage was opposed by a wooden bridge. This bridge he knew, and though disappointed, he still thought it his best way to follow the stream, for the banks were steep and difficult to climb. He now found himself in a comfortable glow, turned about, and arrived at his home about midnight, perfectly sober, after having been nearly two hours in water, and sometimes up to his waist. He went directly to bed, and rose in perfect health.

Drunkards sometimes avoid contagion, while others have suffered severely, from typhus fever in particular. Insensibility to pain in the same condition, is daily exemplified among seamen, whose heedless revels expose them to more disasters than other descriptions of men. The most dreadful wounds and bruises are thus often inflicted, without the slightest recollection how they were effected. When I was surgeon of the *Neptune*, in 1824, in the Arctic Regions, the sailors were cutting up the blubber of a whale captured two days before: a drunken sailor quarrelling with one man busily employed, took up a species of chopper, intending to cut a piece of blubber, instead of doing so, he cut off two of his fingers, which he deliberately threw overboard. Being called to him, I dressed his wound, and had him put to bed. He awoke in about six hours, and on being questioned by the captain and myself, had no remembrance of what had happened; but reflecting upon the consequences of his folly, he wept like a child, and as I kept him almost a tee-totaller, he became a very steady man, and is now, or was lately, captain of a collier.

The second stage of drunkenness is characterized by relaxation and enervation of the animal powers, as the former was distinguished by inordinate excitement, and generally terminates in sleep, which continues for the space of several hours. After this period, the offending liquors being neutralized or decomposed by the action of the digestive organs, and evacuated by the actions of the perspiratory and natural passages, or more directly by sickness, the drunkard awakes, feeling head-ache, languor, and low spirits, with nausea, and loathing of food,—the proofs of a debilitated frame, consequent on excessive stimulation.

In this way the drunken fit usually goes off. But sometimes a third stage succeeds, in which the senses and voluntary powers are altogether suspended, and the inebriate lies in a state of torpor, or profound sleep, from which nothing

can rouse him. In this condition, as in a fit of apoplexy, the only signs of life are a slow and stertorous breathing, with a full and slow pulse, and the remaining warmth of the body,—symptoms which are often only to be distinguished from those of true apoplexy by a knowledge of their cause, viz. spirituous liquors; or, where this cannot be learned, by information or conjecture, the smell of their breath, or the ejection of the liquor from the stomach. The inebriate is now considered to be in that state, known by the term of “dead drunk,” and occasionally the observation proves to be literally true; for actual and fatal apoplexy sometimes closes the scene, or the oppressed state of the brain is evinced by the occurrence of palsy and convulsions, scarcely less fatal.

In such cases, the condition of the brain has been ascertained, by dissection after death, to be the same as it is commonly observed to be, when apoplexy and convulsions prove mortal under other circumstances. Morgagni, Dr. Baillie, and other eminent men, mention numerous instances.

Such are the phenomena and consequences of a fit of intoxication. It is rarely indeed carried to a fatal extent at once; and in the lesser degree, or when seldom repeated, it may not very materially injure a hardy constitution; for some drunkards have a sufficient degree of strength to bear the habitual repetition of intoxicating fits for years; but these are very rare instances, and more rare than you may be aware of. As the stimulus of fermented liquors is more often resorted to, it becomes gradually less efficient; and therefore a greater quantity must be resorted to, or it must be of greater strength. For this is a general law in the animal economy, that as the constitution becomes habituated to any stimulus, the effect of that stimulus decreases, whether it be of a mental or a corporeal nature. Hence the charm of novelty and variety in all our gratifications; and hence the pampered voluptuary, who has exhausted every source of pleasure, exclaims in disgust, “All is vanity!” But great as the *ennui* of the voluptuary may be, in the intervals of pleasure, there is a degree of horror and painful depression consequent on the over excitement by spirituous liquors (when habit has rendered the extreme of stimulation requisite to produce the ordinary effect,) which is perhaps the most intolerable of all sensations that follow excessive excitement from any cause, if we except that from swallowing opium. Dr. Armstrong says—

—“An anxious stomach well
May be endured: so may the throbbing head;
But such a dim delirium, such a dream

Involves you, such a dastardly despair
 Unmans the soul, as maddening Pentheus felt,
 When, baited round Cithæron's cruel sides,
 He saw two suns, and double Thebes ascend."

Hence, then, my friends, is the danger of frequent indulgence in the agreeable stimulation of fermented liquors. However innocently begun, or moderately taken at first, the continuance of the practice may gradually induce a disposition to increase the quality and strength of the liquor, and to shorten the intervals of drinking, until the casual gratification becomes converted into an appetite, *i. e.* until the call for the stimulus of spirituous liquors become as much a part of the constitution as the natural demand for food; with this difference, that the sensations of hunger and pain, with the sinking of the spirits, and dastardly despair, are infinitely more urgent and insupportable than the keenest pain of hunger. The condition of the spirit drinker, then, while it is a subject of just reproach, is one that ought to demand our pity. He may be considered as labouring under an old severe constitutional disease; the removal or palliation of which must be difficult in proportion to its inveteracy. But this is not the whole of the evil: the habit of intemperance in the use of spirituous liquors,—for I particularly mention spirituous liquors, because when the habit of drunkenness is confirmed, unfortunately, the weaker and more diluted species of fermented beverages are but seldom found adequate to produce their original stimulating effects,—become, sooner or later, productive of a series of extremely painful and fatal diseases. These are generally of a chronic nature, and conduce to render fevers, internal inflammations, and many pulmonic disorders, inveterate in their character, and even mortal. This fact, it is true, many will pretend to question, by quoting the longevity of individual drunkards as a perfect refutation of the position; forgetting that individual strength of constitution in these insulated examples, had withstood the deleterious effects of the practice, but as exceptions to the general rule; and that both theory and experience concur in disproving their hypothesis. "Mark," says Dr. Darwin, "what occurs, what happens to a man who drinks a quart of wine, and who has been foolish enough to habituate himself to that quantity, or who takes another bottle in addition to usual intemperate allowance; he loses the use both of his limbs and his understanding! He becomes a temporary idiot, and has a temporary stroke of the palsy! And although after some hours he slowly recovers, is it not reasonable to conclude, that a perpetual repetition of so powerful a poison must at length

permanently affect him?" Most assuredly it does, and thousands of cases witnessed by medical men daily demonstrate this to be the case, and the great experience possessed by many of our eminent practitioners have their foundation in drunkenness. I compare it, metaphorically, to a building: I say, that the stone forming its basis is composed of intoxicating liquors. During a long residence as house surgeon of two principal hospitals of this metropolis, I have been able to come to this conclusion—that considerably more than three-fifths of all the deaths which take place in persons above twenty years of age, happen prematurely, through excess in drinking spirits: and the late Dr. Willan, who considered the bills of mortality, and contrasted them with his own practice, estimated deaths from this cause to be one-eighth. I may also remark, that when Mr. Pitt wished to again put a tax upon ardent spirits, he caused a number of the most eminent physicians and surgeons practising the obstetric art, in London and large towns, to be examined before a select committee of the House of Commons, whence it appears from their united and important testimony, that more than three-fourths of children stillborn, at various periods, perished, from their abandoned mothers having been almost always in a state of intoxication—and it was this evidence which determined Mr. Pitt to lay on the tax; but which was repealed, I believe, about six years ago. This last is the cause, I believe, of the many early deaths that now take place, when the whitened sepulchres, as Mr. Buckingham very appropriately denominates them, are open daily, and almost nightly, to receive their unfortunate and willing victims.

Among the diseases brought on by drunkenness, and prematurely terminating life, may be mentioned many cases of what are called bilious and nervous disorders, pains in the stomach, pains in the bowels, intestinal hemorrhages, palsies, apoplexies, gravel, schirrous and other diseases of the liver, jaundice, and dropsy. And in addition to the aggravation of the febrile, inflammatory, and pulmonic complaints, I may state that the habitual drinking of ardent spirits manifestly augments every symptom of sea-scurvy in our fleets and merchant ships, which occasionally appears among "our brave and hardy brothers of the sea:" it retards the healing of their wounds, and converts them into serious, if not fatal ulcers. Among all the Europeans who have wintered within the arctic circle, it has been found that those who drank spirits died from scurvy; while those who possessed no such liquors, but drank water only, survived, and came home. Here, my friends, does not this fact alone prove the value of abstinence from the pernicious draught?

Although these various diseases and injuries occasioned by drinking spirituous and vinous liquors, differ in various constitutions, yet there is a certain gradual progress of decay and disorder, which may be observed to go on in general, as the pernicious practice is continued. It is generally supposed that these deleterious liquors have an immediate and specific effect upon the liver; which viscus has often been found, after death, hardened or altered in its texture, discoloured, enlarged, or diminished. It appears, however, that the stomach and bowels suffer first from the use of spirits; and that their baneful influence is afterwards gradually extended to every part of the body, producing a variety of morbid symptoms, nearly following an order of succession, which I shall presently enumerate: previous to which, it may not be amiss if I state the chemical effects of drinking upon the human body. Alcohol not only intoxicates, but it also acts chemically upon the animal functions. It constringes the dead animal solids, and prevents putrefaction. It coagulates the serum of the blood, and most of the animal fluids, and undoubtedly, in some measure, deoxygenates the blood. Saussure, Jun. has demonstrated, that alcohol contains about 15 per cent. of hydrogen: now it is this gas, in the drunkard, which is sent off from the lungs in a disengaged state; and this is evident from the fœtor of the breath. Indeed, it is sometimes so pure, that the breath of the dram drinker will inflame on the approach of a candle; and we know of numerous cases recorded of the actual combustion of the human body, produced by the long and immoderate use of alcohol.

The first appearances of disease in the drunkard, are the usual symptoms of indigestion or dyspepsia, attended with a disrelish of plain food, with a frequent nausea, heat, and pain at the stomach, particularly soon after a meal; with sudden slightly convulsive discharges of a clear acid, or sweetish fluid, from the stomach into the mouth. This symptom is called in Scotland the water-brash, where it is the usual effect of the frequent drops of mountain dew, or of that deleterious spirit, whiskey. Along with these symptoms, there is often an inexpressible sensation of sinking, horror, and faintness, especially at those times when the influence of the stimulating liquor has gone off. Racking pains and violent contractions of the bowels and abdominal muscles succeed, frequently periodically returning about four in the morning, and attended with extreme depression or langour, a shortness of breath, and the most dreadful apprehensions.

The unhappy patient sometimes drags on a miserable life, rendered now and then supportable by renewed potations, for

several years. But other symptoms appear sooner or later, for if the world is to most men one of toil and care, it is to the drunkard one of the most intense misery. The stomach will take and retain food, but after receiving it, it is oppressed, and feels tightened or contracted in its dimensions; and in some instances, this is actually the case. I knew a gentleman who could never take more than two ounces of solid food at any one meal, and his meat was always minced,—his stomach was so very small, and his digestive powers so extremely weak. This symptom, the patient expresses that it feels as if it was tied by a straight bandage; and the muscles being drawn into irregular contraction, the surface of the belly is diversified by cavities and protuberances.. The pain continues increasing to such an excess that the miserable drunkard is obliged to press against a table, or some other hard body, until sickness ensues, either voluntarily or spontaneously, and thus temporary relief is obtained, until it recurs again, when the same suffering is repeated. In persons of the sanguine temperament inflammations of the peritoneal membrane ensue, which continue long, producing intense pain, so that even the slightest pain in the abdomen cannot be endured. The lower limbs now become emaciated, and are attacked with frequent cramps and pains in the joints, which finally settle in the soles of the feet; these, as well as the legs, become smooth and shining, and are at the same time so tender, that even the weight of the finger creates pain: yet, sometimes this anomaly occurs, that heavy pressure produces no inconvenience. To these follow a paralysis in all the limbs, or at least an incapacity of moving them with any considerable effect; so that wherever they are placed, there they remain, until removed by an attendant. The whole of the skin becomes dry and scaly, and the complexion sallow. As the powers of the circulation are more impaired, the red vessels disappear from the white of the eye, the due secretion of bile, so necessary for the preservation of health, is imperfectly performed; and the small hairs of the body fall off, leaving the skin perfectly smooth. After some time, jaundice begins to appear, the abdomen fills with water, and dropsical swellings arise in the legs, with general redness and inflammation of the skin, terminating in black spots and gangrenous ulcers. Sometimes *petechiæ* or purple spots appear and disappear for many months, and if the surfaces be scratched, the blood exudes. Discharges of blood from the stomach and bowels, by vomiting and otherwise, of a coffee-ground appearance, succeed. Often, indeed, profuse discharges of blood take place from the nose, stomach, bowels, kidneys, and

bladder; and, in persons of a consumptive habit, from the lungs. Women of a sanguine temperament addicted to ardent spirits, are often more violently affected with those maladies, than others who follow the cheerful habits of temperance and exercise; for as the poet says—

“Think not, ye candidates for health,
That ought can gain the wish'd for prize
With pill or potion,—wine or wealth,—
But temperance and exercise.”

Apthous ulcerations in the mouth and throat frequently recur, and the smell of the breath is offensive, even to the patient himself, being similar to that arising from rotten apples. The dreadful afflictions incidental to the human body, from the horrible vice of drunkenness, which I have detailed, will, I hope, to the reasoning and purely reflecting mind, be sufficient to deter my auditors from getting intoxicated; or, if they have been in the habit of pursuing as a means of enjoyment, this detestable pursuit, let them bear in mind only a tenth part of the diseases I have enumerated, and if they wish to enjoy health and happiness here, and a blissful abode hereafter, they will at once determine to become radical reformers of their habits and constitutions, and for ever abolish the cause of their present and future sickness. Although I have said much that I hope will alarm you, yet, unfortunately, I have much more to say: for, in addition to the bodily complaints which I have pointed out, it is my duty to inform you, that the mental powers which the Almighty has given to man, in order that he might be placed above the brute creation by whom he is surrounded, these noble faculties become seriously impaired. At first, low spirits, strong sensations, and groundless fears, alarm the patient. “Such horrors take place,” observes Dr. Lettsom, “as are dreadful even to a bystander: the poor victim is so depressed, as to fancy a thousand imaginary evils; he momentarily expects to die, and starts up suddenly from his seat, walks wildly about the room, breathes short, and seems to struggle for breath. If these horrors seize him in bed, when waking from slumber, he springs up like an elastic body, with a sense of suffocation, and the horrors of frightful objects around him.” Yet these painful depressions sometimes alternate with unseasonable and even boisterous mirth. But at length a degree of stupidity, or confusion of ideas succeeds. “The memory,” says Dr. Willan, “and the faculties depending upon it, being impaired, there takes place an indifference towards the usual occupations and accustomed society or amusements: no interest is taken in the concerns of others,

no love or sympathy is shewn. Even natural affection to the dearest relatives is gradually extinguished, and the moral sense seems obliterated. The wretched victims of this fatal passion will at length fall into a state of fatuity, and die, with the powers of the mind totally exhausted. Some, after repeated fits of derangement, expire in a sudden and violent phrenzy; some are hurried out of the world by apoplexies; others, perish by the slower process of jaundice, dropsy, ulcerations of the alimentary canal, and gangrenous ulcerations of the extremities."

This, my friends, is the most usual course of the deleterious operation of spirituous liquors on the human constitution. It is not to be inferred, however, that this series of symptoms is to be observed in every drunkard, without variety; or that other complaints do not occur, as a consequence of habitual intoxication. Nor, on the other hand, is it to be concluded, that any or all of these morbid changes are not often produced by that degree of *tippling*, which many people practice without getting drunk, and without getting the character of intemperate drinkers. Fatal cases of jaundice, dropsy, schirrous or hardened liver, apoplexy, &c. from the latter degree of habitual potations, are but too numerous in the experience of every medical practitioner. These sober drunkards, if I may so name them, deceive themselves as well as others. They advance more slowly, but not with less certainty, in the road to ruin, as regards their health. And even this is not invariably true; for the word intemperance is a relative term. What is an active poison to one individual, the constitution of another will enable him to bear with a trivial detriment. Dr. Trotter mentions a marine, in a king's ship, who drank four gallons of beer in the day; and, as might be expected, he soon became bloated and stupid, and died of apoplexy. I knew a sedentary man, much employed in an attorney's office as copying clerk, who informed me that he drank twelve or thirteen quarts of porter, daily. He soon grew corpulent, with a pallid complexion: was excessively dull, and incapable of exercise. He was one evening seized with apoplexy, and died before I could arrive, although I only lived five minutes' walk from his house. And there is at this moment, a gentleman, the brother of an eminent catholic peer, in Essex, who informed me, that with a companion, from mid-day to midnight, he consumed twenty-eight pots of ale. Being seized with threatening symptoms of apoplexy, I visited him with an eminent medical gentleman. The place was covered with pewter pots, and resembled the bar of a public-house. We recovered him, but ere long death must end his

career: he is the most corpulent man I ever saw, and my friend jocosely calls him the little elephant. Although wine may be consumed in larger quantities than pure spirit, yet it produces the same effects:—a purple redness of the complexion, with eruptions vulgarly called “rose drops,” or “brandy carbuncles,” especially about the nose, where they sometimes assume the cognomen of “grog blossoms;” and of which Shakspeare has given a humorous caricature in Falstaff’s description of Bardolph’s nose. An officer in the hospital ship of the fleet to which Dr. Trotter was physician, besides his usual allowance of wine at the mess table, usually drank a bottle and a half of gin in twenty-four hours. His face was similar to the one I have described, and with the addition of blood-shot eyes and fœtid breath. He soon died from apoplexy and diseased liver. Spirits, like other poisons, if taken in sufficient doses, will speedily destroy life; and our public newspapers frequently furnish examples of almost instant death, where large quantities have been swallowed, either in sport or for a wager.

Having said thus much, I shall now proceed to the prevention and cure of drunkenness. When it is considered that the desire for stimulating liquors, with which the habitual tippler or drunkard is actuated, is in fact a constitutional feeling, an appetite, an inclination of nature, for the time, (although it is true, it is a morbid one,) just as much as the parched and panting traveller thirsteth for a drop of cold water, or the feverish man for the same refreshment; it must be obvious, that, as in other chronic diseased conditions of the body, it may be the most effectually checked at its commencement, and that much more is hoped from a system of prevention, than from any attempts to cure. This appears to be the principle of the various temperance societies in this country and America; and both prevention and cure, I am happy to say, has through God’s help, been caused by their indefatigable exertions. To my young friends, I will repeat the advice given by Dr. Lettsom. It is a good—nay, I may call it a golden rule; and I trust they will constantly bear it in mind, and follow it—“I would guard every person from beginning even with a very little drop of the fascinating poison, which, once admitted, is seldom if ever (except by a very powerful mind,) afterwards overcome.”

The most important preventive caution I can give, especially to my fair friends, is to avoid the first encroachments of the enemy in disguise—a wolf in sheep’s clothing. For although drunkenness is hateful in all persons, it is particularly so in a female, from whom so many charms and virtues

are expected. Many of the unhappy females who have become drunkards, have to date their first propensity to that baneful practice, from the frequent recourse to spirituous tinctures, used as medicines, and rashly prescribed for lowness of spirits, stomachic pains, and other nervous and hysterical complaints: or, from the unguarded advice of some medical practitioner, or good lady doctor, a little brandy and water was substituted for wine, as the latter would turn sour on the stomach, &c. But if we ascribe great mischief to these sources, what a long catalogue of moral and physical evils is to be attributed to the circulation of those disguised and medicated drams, which the avarice and charlatanery of the quack impostors of this country, palm off on a credulous public, under the titles of nervous cordials, cordial balms, &c. &c. the bases of which were found by my friend, the late Dr. Reece, to be pure alcohol or whiskey, merely coloured with some harmless drug. These, have not only become the origin of the pernicious habit of dram drinking, but afford the means of continuing and increasing the practice of it, without any moral compunction or reproach, with which the potations of rum or brandy, &c. are usually stigmatized. My last remark, also, applies to the use of cordials and liqueurs, by persons that would blush to taste brandy, and yet these are nothing but brandy or bad alcohol, in disguise.

There are many well-meaning people, who take frequent drams, under one shape or another, to relieve uneasiness at the stomach, or lowness of spirits, without at all suspecting that they are doing any harm. They mention these symptoms slightly, as nervous or gouty, &c. and attempt to avert present suffering, by indulging more freely in the very cause of the mischief, until the habit, with all its lamentable consequences, is established. And it is painful to hear the delusive arguments with which they justify the choice of their liquor. Some, who avoid brandy, have been induced to take rum, because in their wisdom it is more oily and balsamic. Others, who condemn both rum and brandy, make no objection to gin, because they think it diuretic: whereas, half the dropsies among the lower classes of society, actually originate from or are confirmed by the use of this spirit. They are nearly all alike deleterious to the constitution.

From these beginnings of the odious practice of drunkenness, each individual is responsible chiefly to himself; but the foundation of this pernicious vice, is, in many cases, laid by others, even by those who are the natural guardians of the health, which they contribute to undermine, and at a

period when the sufferer is totally unable to resist the mischief. The seeds of the disease are often sown in infancy through the mistaken indulgence of parents and friends. The mild bland nourishment, which the author of nature has so abundantly provided to young children at their birth, as suited to the delicate excitability of those tender beings, ought surely to be deemed sufficient for its nutriment; but, alas! the fond mother, being equally fond of a little drop, administers a little (and often enough to produce intoxication) to her offspring, considering that it will not cause any harm. But let me warn affectionate mothers from this dreadful practice. They not only create and aggravate infantile diseases, but what is worse, they engender a fondness for spirituous liquors, which increases with their growth, and thus they become drunkards at an early age by practice, when they ought to only know such beings as objects of pity, rather than scorn. The natural appetite of mankind requires no stimulants; and common sense dictates, that ardent spirits, wine, and fermented liquors of every kind, ought most religiously to be excluded from the diet of infancy, childhood, and youth; and I feel persuaded, that if this important rule is adopted, they will not be required in manhood and old age.

I shall now call your attention to a most important subject,—the cure of drunkards and tipplers. First,—To effect this desirable object, we must impress the mind of the drunkard with the nature of his own character. He must see himself; view his own picture, just as the Lacedæmonians used to shew to their children their slaves, whom they had made drunk purposely, to give them an aversion and horror for this detestable vice. Having duly reflected upon, and being convinced of, the immorality of drunkenness, he must at once determine to reform, and leave off all his bad beverages. But if he has been an habitual drunkard, and where the health has been greatly impaired, to leave off at once this stimulus may prove dangerous. Dr. Darwin has laid down a golden rule, by which he has gradually recovered many drunkards to a good state of health, and of course reformed the mind. In a case he mentions, as one of many, where a person was in the constant habit of taking daily large quantities of brandy and water, and whose constitution was almost a shadow, he advised this simple rule: merely to daily abstract one tablespoonful of spirit, and in lieu of it to add the same quantity of water, and administering a mild nutritive diet in combination with watery infusions of strengthening medicines, such as the peruvian and cascarilla barks, combining the same with mental employment and bodily exercise. This is the only

method I know of to cure a drunkard. Act upon this principle, and he will soon feel the effects of a total abstinence; and he who was the object of every man's pity and scorn, will become one worthy their admiration, affection, and esteem.

But you will very naturally say—"If you deprive us of our beer, ale, wine, and spirits, what shall we drink instead?" Why, my friends, one word comprises my answer—WATER. In animals of all classes, the first great step in the series of vital processes, is digestion; and here nature appears to render the presence of a fluid particularly necessary, in order, as it were, to insure for herself a sufficiency for her future operations. Accordingly, we find that all animals instinctively partake moderately of a certain proportion of fluid, either in the form of water, or in succulent food. None of you, I am positive, ever saw a horse, cow, sheep, dog, cat, or any other animal, in a state of nature, drunk; nay, I have seen the drunkard offer his pot to his dog, who, after looking at it, turned away, as if in disgust with his master's conduct, and as if demonstrating in plain actions that that was not the beverage intended by the all-wise God of Nature for him. Oh, my dear friends, what grand lessons do the beasts of the field teach us, if we would but follow them! Man alone, of all the great works of the Almighty's creation, is the only animal accustomed to unnatural drinks, or to abuse those which are natural; and this, I hope, I have clearly demonstrated this evening, is a fruitful source of almost all his mental and bodily evils.

Every nation appears to have had its national intoxicating liquor, but John Bull amalgamates the whole, to which he adds ale and porter. None come amiss to him; and as the old song says—

"The Russ loves brandy; Dutchmen beer;
The Indian rum, most mighty;
The Welshman sweet metheglin quaffs;
The Scotch and Irish *aquæ vitæ*.
The French extol the Orleans grape,
The Spaniard tipples Sherry;
The English none of these escape,
For they with all make merry."

As sick persons desirous of health generally pay great attention to the advice of their medical attendant, so, in support of my own opinion, that man requires no other liquid with his food than the water from the purling stream, which the thirsty traveller rejoices to discover. I shall quote the sentiments of some of the most eminent men that ever

adorned the medical profession, and which, I hope, will answer the objections of those who are fond of those demoralizing beverages I have had the honor of denouncing.

Dr. Saunders observes, on the habitual use of water,—“Water drinkers are in general longer lived, are less subject to decay of the mental faculties, have better teeth, more regular appetites, and less acrid evacuations, than those who indulge in a more stimulating diluent for their common drink.”

Dr. Trotter, who practised as a physician in his late Majesty's fleet for many years, thus remarks, as the result of a long series of strict observations:—“My whole experience assures me, that wine is no friend to vigour or activity of mind: it whirls the fancy beyond the judgment, and leaves the body and soul in a state of listless indolence and sloth. The man that, on arduous occasions, is to trust to his own judgment, must preserve an equilibrium of mind alike proof against all contingencies and internal passions. He must be prompt in his decisions; patient under expectations; not elated with success, or depressed with disappointment. But if his spirits are of that standard as to need a fillip from wine, he will never conceive or execute anything magnanimous or grand. In a survey of my whole acquaintance and friends, I find that *water-drinkers* possess the most equal temper and cheerful dispositions.” Is not this encouragement, my friends?—It is:—try it, and you will be able to add personally your evidence, if necessary. But, to proceed—

Dr. Hoffman tells us, that “Pure water is the best drink for persons of all ages and constitutions. By its fluidity and mildness, it produces a free and equable circulation of the blood and other liquids in the vessels of the body, upon which the due performance of every animal function depends, and hence water drinkers are not only the most active and nimble, but also the most cheerful and sprightly of all people. In sanguine complexions, water, by diluting the blood, renders the circulation easy and uniform. In the choleric, the coolness of the water restrains the quick motion and intense heat of the animal fluids. It attenuates the glutinous viscosity of the juices in the phlegmonous, and the gross earthiness which prevails in melancholic temperaments. And as to different ages, water is good for children, to make their tenacious milky diet thin and easy to digest: for youth and middle-aged people, to sweeten and dissolve any scorbutic acrimony or sharpness that may be in the humours, by which means pains and obstructions are prevented: and for old people, to moisten and mollify their rigid fibres, and to

promote a less difficult circulation through their hard and shrivelled vessels. In short, of all the productions of nature or art, water comes nearest to that universal remedy or panacea, so much sought after by mankind, but never discovered."

Dr. Mackenzie, in his *History and Art of Preserving Health*, says—"The truth of it is this, pure, light, soft, cold water, from a clear stream, drank in such a quantity as is necessary to quench their thirst, to dilute their food, and to cool their heat, is the best drink for children, for hearty people, and for persons of a hot temperament, and whose general healths are improved by an habitual use of it."

Hippocrates, in his advice to his disciples, remarked, that there is no doubt but cold water is the best and most wholesome common drink in nature, to strong and healthy children, to vigorous youth, and to persons of a good constitution, which it preserves.

As a beverage, that water which is purest, lightest, most transparent, void of taste and smell, is deemed the best. It has been proved in many trying instances, that water alone is capable of sustaining human life for a long time. Tournefort, the celebrated botanist, mentions a Venetian consul who resided at Smyrna, that lived to the age of 118 years, who never drank anything but water; which is said to be the universal and only beverage of the New Zealanders, who enjoy the most perfect and uninterrupted health, entirely untainted by disease, not a single person having been seen by Captain Cook that had any bodily complaint, or even symptoms of the slightest eruption on the skin.

That water is not an incentive to vice, like ardent and fermented liquors, and that its votaries are exempt from the disgrace of inebriety, has been observed by Shakspeare. "Honest water," observes the immortal bard, "is too weak to be a sinner: it ne'er left man i' the mire." Whereas, "Strong drink," as Solomon tells us, "is raging; and whosoever is deceived thereby, is not wise."

I might, my friends, occupy your time still further on this subject; but I hope that I have said sufficient to prove the value and importance of sobriety. In conclusion, let me advise you to recollect, that temperance makes the poor man wealthy; it gives him virtue, independence, comfort, and happiness; and if it does this for the poor, what will it not do for the rich? Let me most earnestly exhort you, if, as husbands, you love your wives—as fathers, you love your children—as relatives, you love relatives—and as men wishing to be the brothers of men—to come at once forward and adopt the principles of temperance, as recom-

mended by this society; adhere most religiously to them, and believe me, when I tell you, as one who wishes your happiness in this world, and a blessed eternity hereafter, that the pledge adopted by this Society, and which I have often feebly advocated, will cause you all to become better husbands, better wives, better parents, better children, better masters, better servants, better friends and relatives; and lastly, though not least, better servants of Christ, and more loyal subjects of our good and gracious sovereign.

Trusting that I may have spoken a word in season this evening; may God in his mercy bless you all. Amen.

ANNOUNCEMENT.

Mr. DEWHURST respectfully announces, that he may be daily consulted by invalids, at his residence, Verulam Cottage, 13, London Street, Pentonville. All Letters must be Post Paid.

July, 1838.

