

Welcome to the book *Tobacco: Its History, Nature, and Effects on the Body and Mind*, by Joel Shew, M.D. (1849). To go to the "[Table of Contents](#)" immediately, [click here](#).

Tobacco pushers and their accessories conceal the breadth of [tobacco effects](#), the enormity of the tobacco holocaust, and the long record of documentation.

The concealment process is called the "[tobacco taboo](#)." Other pertinent words are "censorship" and "disinformation."

Here is the text by Joel Shew, M.D., of an early exposé (1849) of tobacco dangers. It cites facts you don't normally ever see, due to the "[tobacco taboo](#)."

The phrase "[tobacco taboo](#)" is the term for the pro-tobacco censorship policy—to not report most facts about tobacco.

As you will see, information about the tobacco danger was already being circulated in 1849, 115 years before the famous 1964 Surgeon General Report. Be prepared.

## ***Tobacco: Its History, Nature, and Effects on the Body and Mind,***

by Joel Shew, M.D.

(Stoke, England:

G. Turner Pub Co, 1849)

with the opinions of Rev. Dr. Nott, L. N. Fowler, Rev. Henry Ward Beecher, Hon. Horace Greeley, Dr. Jennings, O.S. Fowler, Dr. R. T. Trall, and Others

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## CHAPTER I.

### EARLY HISTORY OF TOBACCO.

"Pernicious weed! whose scent the fair annoys;  
 Unfriendly to society's chief joys:  
 Thou art indeed a drug the gard'ner wants,  
 To poison vermin that infest his plants;  
 But are we so to wit and beauty blind,  
 As to despise the glory of our kind,  
 And show the finest minds and fairest forms  
 As little mercy as the *grubs and worms*?"

The well-known plant Tobacco, or *Nicotiana Tabacum*, belongs, according to botanists, to the same natural order as *Atropa Belladonna*, commonly known by the name of deadly night-shade, and the *Datura Stramonium* or thorn-apple, both of which are among the most powerful and deadly of the acro-narcotic poisons. The oil of tobacco, as also an infusion from its leaves, is one of the most [virulent poisons](#) known. Like the other poisons mentioned, tobacco has been used for [criminal purposes](#). Besides the

essential oil, tobacco contains an acrid alkaline principle, which can however only with difficulty be separated from it. 'The empyreumatic oil of tobacco,' says Christison, on Poisons, 'is well known to be an active poison, which, produces convulsions, coma, and death.' But of its specific and [poisonous effects](#), I shall speak more fully hereafter.

There are about thirty species of tobacco, each of which possesses very nearly the same properties. Each has a strong, and to the uninitiated, a disagreeable smell, and an acrid, burning taste. Either water or spirits may be used to obtain a decoction or solution of the acrid principle. Heat facilitates the operation. The infusion obtained in spirits is of a deep green colour. The watery infusion is of a deep yellowish brown colour. Of the thirty species, two possess most of the acrid principle, viz., the *Nicotiana Tabacum*, and the *Nicotiana Rustica*.

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Concerning the derivation of the name of tobacco, there exists among writers a difference of opinion. According to some authorities it came from the word *tobago*, the name of a pipe used in Virginia; others that it came from *Tobago*, one of the West Indian Islands. The botanical name *Nicotiana* is from M. Nicot, who first obtained the plant from Tobago, and took it to Spain.

That tobacco was unknown to the Europeans prior to the discovery of America by Columbia authorities generally agree. It is supposed to have been known to the Chinese time immemorial, for the forms of their pipes and their modes of using appear to indicate great antiquity. The tobacco sack or the wallet and the pipe are indispensable articles for the every-day use of the Chinaman.

One author, *Meller*, says that the plant was found in the province of Yucatan, in the Mexican gulf, in a very nourishing state. Among the natives, who held it in the greatest possible esteem and reverence, from the almost magical virtues they attached to it, it was called *Petun*, and by those in the adjoining islands, *Yoli*. So singular a production of the country could not but draw the attention of the Spanish commander to it. The consequence was, that a specimen of it was shipped with other curiosities of the country, with a long detail of its supposed astonishing virtues in pharmacy. In the latter end of the year the plants arrived at their place of destination, and this may fairly be, deemed to have been their first entrance into the civilized portions of the world.

'A dreadful disease,' continues this author (an advocate of the weed), 'first brought from America by the last return of Columbus, raged about this period with a fearful and unchecked virulency in Spain, committing

dreadful devastations on the human frame, and finally ending in the most horrible death the imagination could picture. This circumstance served to procure tobacco a most sanguine welcome; for the sailors composing the fleet, having learned it from the natives, had disseminated the belief that it was the only known antidote against its ravages; that it in fact answered the purpose of mercury in the present day, a belief welcomed with enthusiasm, and ending in despair.'

From Spain tobacco soon found its way to different parts of the civilized world, first to Portugal, and then to the other European kingdoms. From Spain and Portugal, it was brought by one of the French ambassadors to Paris. Here it is supposed the practice of snuff taking first commenced. The same woman Catharine de Medicis, who was notorious for her instigation of the [massacre](#) of the Protestants on St. Bartholomew's day, may be considered the first snuff taker. She, it is said, used tobacco in the form of powder; and the practice has certainly been well kept up in that city ever since. From the fact of this Queen having used tobacco, it got the beautiful names of *Herba Catherinæ Medicæ*, and *Herba Reginæ*, or the Queen's Herb.

About this time tobacco came under the patronage of Cardinal Santa Croce, the Pope's nuncio, who in returning from his embassy to the Spanish and Portuguese courts, carried the plant to his own country. This individual had at another time won no small reputation, by bringing from the Holy Land what he affirmed to be a portion of the real cross, and from the general enthusiasm with which tobacco was received in the Papal States, we may believe the account, that Santa

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Croce's celebrity was as much enhanced by the latter as by the former act. Santa Croce thus speaks of the plant he so much admired:

'The herb which borrows Santa Croce's name,  
Sore eyes relieves, and healeth wounds: the same  
Discusses the king's evil, and removes  
Cancers and boils: a remedy it proves  
For burns and scalds, repels the nauseous itch,  
And straight recovers from convulsion fits,  
It cleanses, dries, binds up, and maketh warm:  
The headache, toothache, colic like a charm  
It ceaseth soon; an ancient cough relieves,  
And to the veins, and milt, and stomach give  
Quick riddance from the pains which each endures  
Next the dire wounds of poisoned arrows cures;

**All bruises heals, and when the gums are sore,  
It makes them sound and healthy as before.  
Sleep it procures, our anxious sorrows lays,  
And with new flesh the naked bone arrays.**

**No herb hath greater power to rectify  
All the disorders in the breast that lie,  
Or in the lungs. Herb of immortal fame!  
Which hither first by Santa Croce came,  
When he (his time of nunciature expired)  
Back from the Court of Portugal retired;  
Even as his predecessors, great and good,  
Brought home the Cross, whose consecrated wood,  
All Christendom now with its presence blesses;  
And still the illustrious family possesses  
The name of Santa Croce, rightly given,  
Since they in all respects resemble Heaven,  
Procure as much as mortal men can do,  
The welfare of our soul and bodies too.'**

**As in other countries, tobacco was received with general favour in England, although here as elsewhere it found bitter opponents. It is generally supposed to have been introduced first by Sir Walter Raleigh in 1584, or as some say, in 1586. Others, however, regard it more probable that to Sir Walter is only due the honour of having been the first patron of the precious weed, and that it was first introduced into England by Ralph Lane, who returned to that country with Sir Francis Drake, 1560. The earliest evidence of Sir Walter Raleigh's using it seems to have been that of 1584. According to Lobelius, it was cultivated in England in 1570. Ciucius says that 'the English, on their return from Virginia, brought tobacco pipes made of clay; and since that time the use of drinking tobacco hath so much prevailed all over England, especially among the courtiers, that they have caused many such pipes made to drink tobacco with.' Whatever may be true on the subject, Sir Walter Raleigh appears to have the credit of having been at least its most distinguished patron in the time of its introduction into England. There is an amusing anecdote respecting Sir Walter's early use of the article. There is yet standing at Islington, a public house, called the 'Pied Bull,' in which the distinguished knight lived. While he was at one time enjoying quietly in his room his favourite pipe, a servant entering saw his master surrounded by volumes of smoke. Ignorant of the cause, and alarmed at seeing him, as he supposed, on fire,**

he rushed from the room and soon returned with buckets of water, with which he completely drenched the distinguished lover of smoke. The assertion

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which has been made by some, that Sir Walter was executed by King James for his indomitable love of the herb, is doubtless a mistake, as would appear from the testimony of the herbalist Parkinson, who, in speaking of the kind of tobacco, *Nicotiana Rustica*, says, 'Although it be not thought so strong or sweet for such as take it by the pipe, yet have I known Sir Walter Raleigh, when he was a prisoner in the tower, make choice of this sort to make good tobacco, which he knew so rightly to cure, as they call it, that it was held almost as good as that which came from the Indies, and fully as good as any other made in England.'

## CHAPTER II.

### INTRODUCTION OF TOBACCO INTO GREAT BRITAIN AND THE UNITED STATES.

'Great men and green worms will use their tobacco,  
But ne'er will a pig or his wife, ah! alack! 0!'

Tobacco, notwithstanding its power of fascination, has suffered romantic vicissitudes in its fame and character. It has been successively opposed and commended by physicians, condemned and eulogized by priests and kings, and proscribed and protected by governments; while at length this insignificant production of a little island, or an obscure district has succeeded in diffusing itself through every climate, and in subjecting the inhabitants of every country to its dominion. The Arab cultivates it in the burning desert—the Laplander and Esquinaux risk their lives to procure a refreshment so delicious in their wintry solitude; the seaman, grant him but this luxury, and he will endure with cheerfulness every other privation, and defy the fury of the raging elements; and in the higher walks of civilized society—at the shrine of fashion, in the palace, and in the cottage, the fascinating influence of this singular plant commands an equal tribute of devotion and attachment.'—Dr. PARIS .

WHILE on the one hand, kings, queens, divines, and physicians, learned soon greatly to relish tobacco, there were on the other, persons of like dignity and influence who as strongly denounced it. By priests to use it was declared sinful. [Pope Urban VIII.](#) published a bull, excommunicating all persons found guilty of snuffing or smoking during divine service. In the earlier times of New England also, laws were enacted against the using of tobacco on the Sabbath day. In some parts of Switzerland, as the canton of Berne, in 1661, it is said, the public authorities placed

the sin of smoking among the ten commandments, and immediately opposite that against adultery. Pope Innocent, 1690, renewed the bull of Pope Urban, and thirty years after this, the [Sultan Amurath IV.](#) [1623-1640], it is said, made the use of tobacco a capital offence, on the ground of its causing infertility.

At one time smoking was forbidden in Russia, on penalty of having the nose cut off, and at a subsequent period, the punishment was mitigated to the offender being conveyed through the streets with a pipe bored through the nose. This last mode of punishment reminds us of the awfully barbarous persecutions which were inflicted on the Quakers and Baptists at an early period of the Puritanic sway in New England, when holes were bored through men's ears for the crime of being a Quaker, and when both Quakers and Baptists were put to death for persisting in worshipping God according to the dictates of their own consciences.

Of all the enemies tobacco has had to encounter, King James I. [1566-1625]

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stands pre-eminent. All who are acquainted with the history of the plant, have read of his famous *Counterblast of Tobacco*. 'Tobacco,' says King James, 'is the lively image and pattern of hell; for it hath by allusion, in it, all the parts and [vices](#) of the world, whereby hell may be gained; to wit, first it is a smoke—so are all the vanities of this world; secondly it delighteth them that take it—so do all the pleasures of the world delight the men of the world; thirdly, it maketh men drunken and light in the head—so do all the vanities of the world; men are drunken therewith; fourthly, he that taketh tobacco [cannot leave it](#), it doth bewitch him—even so the pleasures of the world make men loth to leave them; they are for the most part enchanted with them. And further, besides all this, it is like hell in the very substance of it; for it is a [stinking, loathsome thing](#), and so is hell. And finally, were I to invite the devil to dinner, he should have three dishes: first, a pig; second, a poll and ling of mustard; and third, a pipe of tobacco for digesture. Have you not reason to forbear this filthy novelty, so basely grounded, so foolishly received, and so grossly mistaken in the right use thereof? In your abuse thereof, sinning against God, harming yourselves both in person and goods, and raking also thereby the marks and vanities upon you; by the custom thereof, making yourselves to be wondered at by all foreign nations, and, by all strangers that come among you, to be scorned and contemned! And King James closes his Counterblaste with the following remarkable passage: '*It is a custom loathsome to the [eye](#), hateful to the nose, harmful to the [brain](#), dangerous to the [lungs](#), and, in the black, stinking fumes thereof, nearest resembling the horrible Stygian smoke of the pit that is bottomless.*'

[\[William\] Camden](#) [1551-1623], the historian, speaking of the introduction of tobacco into England, says: 'Some through wantonness, with inexpressible greediness, sucked in, through an earthen pipe, its excessively stinking smoke, which they afterward blew out of their nostrils; insomuch that tobacco shops are not less frequent in towns than ale-houses and taverns, so that Englishmen's bodies, which are so delighted with this plant, seem, as it were, to be degenerated into the nature of barbarians.'

[Joshua Sylvester](#) [1563-1618], a poet and cotemporary of King James I., wrote a poem against tobacco, which bore the following curious title; *'Tobacco battered and the pipes shattered (about their ears that idly idolize so base and barbarous a weed, or, at leastwise, over-love so loathsome a vanitie), by a volly of holy shot thundered from Mount Helicon.* This author considered tobacco a provocative to intemperance, and in the following lines ingeniously derives its name from Bacchus, the god of strong drink:

'Which of their weapons hath the conquest got  
Over their wits; the pipe or else the pot?  
For even the derivation of the name  
Seems to allude to, and include the same:  
Tobacco, as *IT %"PPT (to Bachchus)*—one would say;  
To cup god Bacchus dedicated aye.'

The invention of guns and tobacco-pipes, Sylvester regarded as being of Satanic origin, and foretold in the Apocalypse—as appears in the following lines :

'Two smoky engines, in this latter age,  
(Satan's short circuit, the more sharp his rage.)

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Have been invented by too wanton wit,  
Or rather vented from th' infernal pit,—  
Guns and tobacco-pipes, with fire and smoke,  
At least a third part of mankind to choke,  
(Which happily th' Apocalypse foretold;—  
Yet of the two we may, I think, be bold  
In some respect to think the last the worst,  
(However both in their effects accursed ;)  
For guns shoot from-ward only at their foe,  
Tobacco-pipes home-ward into their own,  
When, for the touch-hole firing' the wrong end,  
Into ourselves the poison's force we send.'

Sylvester's description of tobacco and its votaries rung thus:

'Of all the plants that Tellus' bosom yields,  
In groves, glades, gardens, marshes, mountains, fields,  
None so pernicious to man's life is known  
As is tobacco, saving *hemp* alone.  
If there be any herb in any place :  
Most opposite to God's good herb of Grace,  
'Tis doubtless this; and this doth plainly prove it,  
That, for the moat part, graceless men do love it,  
Or rather dote most on this withered weed,  
Themselves as withered in all gracious deed.  
If then tobaccoing be good, how is't  
That lewdest, loosest, basest, foolishlest,

The most unthrifty, most intemperate,  
Most vicious, most debauched, most desperate  
Pursue it, most; the wisest and the best  
Abhor it, shun it, flee it as the pest?'

There was one very amusing occurrence which every one will recollect, of the times in which tobacco was introduced into England. In the beginning of the seventeenth century, the early planters of Virginia were nearly or quite all single men. They considered themselves as merely transient residents of the colony, and their habits became dissolute. As a remedy for this evil, the company in London determined to transport a number of young ladies to supply the planters with wives, the very best means certainly that could possibly be devised. But it was singular enough that these young ladies should be made things of merchandise. 'A cargo of these fair creatures,' we are told, 'was accordingly dispatched, and was received with the greatest delight and enthusiasm by the planters; hut the wary merchants at home had taken care to make their consignment a mere mercantile transaction, and each young lady was obliged to find a lover who would give an hundred and twenty pounds of tobacco in exchange for her fair self, to pay the expenses of the voyage.' Such a speculation as this would, as a matter of course, prove abundantly successful. Notwithstanding all that King James and others of his time wrote against the use of tobacco, and the immense duty that he caused to be levied upon the article, it yet grew rapidly in public favour, as it has done in all countries where it has been introduced, and in what country has it not? Certainly in all that are civilized. Thus, amidst fierce opposition on the one hand, and advocacy on the other, tobacco has passed through the different phases of popular favour, until at length it has become an almost universal favourite with the rich and the poor, the high and the low, and the learned and the ignorant. Within a few years past especially, its use has been

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exceedingly popular. Such at least is the fact in our own country. Go through the pleasantest streets of our prominent cities, all except Boston, or to the best hotels of the beautiful New England towns, not omitting those that hold forth the banner of temperance reform, and we find evidence enough of the repute in which tobacco is held among us. Were a stranger unacquainted with these things, to observe the habits of Americans in the use of tobacco, he might easily enough conclude that we delight in nothing so much as,

'To sing the praises of that glorious weed.'

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### CHAPTER III.

#### NATURE AND PROPERTIES OF TOBACCO.

'Stinkingest of the stinking kind,  
Filth of the mouth and fog of the mind,—  
Afric that brags her foyson,

Breeds no such prodigious poison.  
Henbane, nightshade, both together,  
Hemlock, aconite——.'

CHARLES LAMB.

ACCORDING to the United States Dispensatory, 'Tobacco is an annual plant, with a large, fibrous root, and an erect, round, hairy, viscid stem, which branches near the top, and rises from three to six feet in height, the leaves are numerous, alternate, sessile, and somewhat decurrent, very large, ovate, lanceolate, pointed, entire, slightly viscid, and of a pale green colour. The lowest are often two feet long, and four inches broad. The flowers are disposed in loose terminal panicles; and are furnished with long, linear, pointed bractes at the divisions of the peduncle. The calyx is bell shaped, hairy, somewhat viscid, and divided at the summit into five pointed segments. The tube of the corolla is twice as long as the calyx, of a greenish hue, swelling at top into an oblong cup, and ultimately expanding into a five-lobed, plaited, rose-coloured border. The whole corolla is very viscid. The filaments incline to one side, and support oblong anthers. The pistil consists of an oval germ, a slender style longer than the stamens, and a cleft stigma. The fruit is an ovate, two-valved, two-celled capsule, containing numerous reniform seeds, and opening at the summit.'

It was remarked in the beginning, that according to botanical arrangement, tobacco belongs to the same natural order as *Atropa Belladonna*, or deadly night-shade, and *Datura Stramonium*, or poison thorn-apple, both of which are among the most powerful and deadly of the acro-narcotic poisons of the vegetable kingdom, and that the essential oil of tobacco, as also an infusion from his leaves, is one of the most virulent poisons known. 'The empyreumatic oil of tobacco,' says Christison, in his work on Poisons, 'is well known to be an active poison, which produces convulsions, coma, and death.' There are a variety of facts and authorities on this point, some of which I will cite.

According to Dr. Waterhouse, Linnæus has placed in his natural arrangement tobacco in the class *Luride*, which signifies pale, ghastly, livid, dismal, and fatal. 'To the same ominous class,' he adds, 'belong fox-glove, henbane, deadly night-shade, lobelia, and other

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poisonous plants, bearing the tremendous name, 'Atropa,' one of the furies.' When tobacco is taken into the stomach for the first time, it creates a nausea and extreme disgust. If swallowed, it excites violent convulsions of the stomach and bowels to eject the poison either upward or downward. If it be not very speedily and entirely ejected, it produces great anxiety, vertigo, faintness, and prostration of all the senses; and in some instances death has followed. 'The oil of this plant,' he adds, 'is one of the strongest vegetable poisons, insomuch as we know of no animal that can resist its mortal effects.'

Dr. Waterhouse, who had ample opportunities for observation, said, 'he never observed so many pallid faces, and so many marks of declining health, nor ever knew so many hectic habits, and consumptive affections, as of late years; and I

trace this alarming inroad on young constitutions principally to the pernicious custom of smoking cigars.'

Of *nicotia*, *nicotin*, or *nicotina*, the active or poisonous principle of tobacco, Dr. Wood, one of the authors of the United States Dispensary, observes, 'that it is one of the most virulent poisons known; and that a drop of it, in the state of concentrated solution, was sufficient to destroy a dog; and small birds perished at the approach of a tube containing it.'

Soldiers have not unfrequently disabled themselves from duty by applying a moistened tobacco leaf to the arm-pit, which causes great prostration and vomiting, and violent sickness after eating.

Great prostration and nausea have been caused by placing only a part of the hand, for a few minutes, in a strong infusion of tobacco.

[Matthieu J. B.] Orfila [1787-1853], the celebrated [French writer on poisons](#), says, 'A woman applied to the heads of her children, for a disease of the scalp, an ointment prepared with the powder of tobacco and butter; soon after they experienced dizziness, violent vomiting, and faintings, accompanied with profuse sweats.'

A decoction or tea made from a few grains of tobacco, and given to relieve spasms, has been repeatedly known to destroy life.

The tea of tobacco, applied to the pit of the stomach, occasions fainting, giddiness, vomiting, and cold sweats. The tea, when rubbed upon sores, ulcers, ringworms, and parts affected with itch, has been known to cause vomitings, fainting, and convulsions.

Persons under the influence of strong excitement or emotion have, by unconsciously chewing large quantities of tobacco, become terribly sick.

[Dr. \[Reuben D.\] Mussey](#) [1780-1866], formerly of New England, a very able physician, surgeon, and writer, upon different subjects connected with health, made a variety of experiments upon animals, with a view to ascertain the effects of tobacco. Cats, dogs, mice, squirrels, etc., were killed in a few minutes by the application of a small quantity of the oil of tobacco to the tongue, or by introducing it into the circulation.

Dr. Eberle, in a Treatise of the Materia Medica and Therapeutics, remarks, 'That in employing the tobacco injection, it is of the utmost importance to proceed with very great caution. If the quantity injected be too great, it will produce the most alarming symptoms, such as vomiting, cold sweats, universal prostration, syncope, and even death. I have known an empiric,' continues Dr. Eberle, 'destroy in less than twenty minutes, the life of a charming little boy—the son of a gentleman at Lancaster, whose family I attended while

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residing in that place—by an immoderate injection of the infusion of tobacco.' In the Sandwich Islands, where tobacco is so generally used that children are taught to smoke before they are able to walk, adults sometimes carry the practice to such excess that they fall down senseless, and suddenly die. So we are told by those who have visited those islands.

'A Hottentot,' says Mr. Barrow, a traveller in Africa, 'applied some of it (the oil of tobacco) from the short end of his wooden pipe to the mouth of a snake while darting out his tongue. The effect was as instantaneous as that of an electric shock. With a momentary convulsive motion, the snake half untwisted itself, and never stirred more: and its muscles were so contracted that the whole animal felt as hard and rigid as if dried in the sun.'

The Indians in some parts of America, it seems, were acquainted with the poisonous effects of tobacco. They were in the habit of dipping the points of their arrows in an oil obtained from the leaves of tobacco, we are told, which being inserted into the flesh, occasioned sickness and fainting, or even convulsions and death.

Dr. Mussey made, among others, the following experiments: 'Two drops of oil of tobacco, placed upon the tongue, were sufficient to destroy life in cats which had been brought up, as it were, in the midst of tobacco smoke, in three or four minutes. Three drops, rubbed on the tongue of a full grown cat, killed it in less than three minutes. One drop destroyed a half-grown cat in five minutes. Two drops on the tongue of a red squirrel destroyed it in one minute. A small puncture made in the tip of the nose with a surgeon's needle, bedewed with the oil of tobacco, caused death in six minutes.' This author also observes, that 'the tea of twenty or thirty grains of tobacco, introduced into the human body for the purpose of relieving spasms, has been known repeatedly to destroy life.'

Professor Hitchcock says, 'I group *alcohol*, *opium*, and *tobacco* together, as alike to be rejected, because they agree in being poisonous in their natures. In popular language, alcohol is placed among the stimulants, and opium and tobacco among the narcotics, the ultimate effect of which upon the animal system, is to produce stupor and insensibility. Most of the powerful vegetable poisons, such as henbane, hemlock, thorn-apple, prussic acid, deadly nightshade, foxglove, and poison sumach, have an effect on the animal system, scarcely to be distinguished from that of opium and tobacco. They impair the organs of digestion, and may bring on fatuity, palsy, delirium, and apoplexy. In those not accustomed to it, tobacco excites nausea, vomiting, dizziness, indigestion, mental dejection, and in short, the whole train of nervous complaints.'

Dr. Rees, author of a Cyclopaedia, says, 'A drop or two of the chemical oil of tobacco being put upon the tongue of a cat, produces violent convulsions, and death itself in the space of a minute.'

Barbarous experiments have been made upon mice by placing a small portion of the oil of tobacco on a fine cambric needle, and piercing it into the nose of the animal; this is found to produce death almost instantaneously.

Dr. Clay, of Manchester, England, gives the following case: 'A little boy, aged eight years, had been long affected with *tinca capitis*

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or scald head, which had proved very obstinate. His father applied over his head the expressed juice of tobacco, obtained by wetting the dried tobacco leaves, then placing them between two iron plates and pressing them, by which means the juice is extracted. The fluid was applied at five minutes before two in the afternoon: the

child almost immediately complained of giddiness and loss of sight, so that his father smilingly observed, 'the boy is drunk;' he soon after became sick, vomited frequently, and in large quantities; he had also a desire to evacuate the bowels, which he could not accomplish; his limbs tottered, his face grew pale, and became covered with a cold sweat; his mother helped him to bed, into which he had no sooner entered than he had an involuntary discharge from the bowels; his countenance now appeared sunk; his limbs were motionless, excepting now and then, when his legs were drawn towards the abdomen convulsively ; he complained of violent thirst, and pain in the bowels; his whole body was bedewed with a cold sweat, and at half-past five he expired, only three hours and a half after the application. On dissection, no organic change was perceptible.' Severe sickness, and not unfrequently death, have been caused by the external application of tobacco for diseases of the skin. I might quote from medical works, numbers of cases of this kind.

The internal application of tobacco is, however, more dangerous than the external. A very small quantity in the form of enema or injection has not unfrequently been known to produce death. It is lamentable to notice in medical works on poisons, the numbers of cases of this kind. Christison, an author before referred to, cites from M. Tavignot the following two cases:

'An infusion prepared by mistake, with two ounces and one drachm, instead of one drachm and a half, was used as an injection for a stout man affected with ascarides. In seven minutes he was seized with stupor, headache, paleness of the skin, pain in the bowels, indistinct articulation, and slight convulsive tremors, at first confined to the arms, but afterward general. Extreme prostration, and slow, laborious breathing soon ensued, and then coma (or deathly fainting), which ended fatally in fifteen minutes.'

Dr. Grahl, of Hamburg, some years ago, published a case in which a female quack administered by injection to a lady, about an ounce of tobacco boiled in water for fifteen minutes. The patient, who laboured merely under dyspepsia and obstinate constipation, was seized in two minutes with vomiting, violent convulsions, stertorous breathing, and died in three-quarters of an hour. In the form of injection, two drachms (a fourth part of an ounce), or even a drachm and a half, are considered by no means a safe dose. A single drachm in infusion has been known to kill the patient. More cases than one of this kind are on record. A case of this kind is mentioned by Dr. Christison, as having not long since taken place at Guy's Hospital in London. The patient died in thirty-five minutes.

Dr. Paris, a medical writer of celebrity, tells us that he witnessed a lamentable instance of the effects of tobacco, where a patient had been exhausted by previous suffering: 'A medical practitioner, after repeated trials to reduce a strangulated hernia, injected an infusion of tobacco, and shortly afterward sent the patient in a carriage to West-minster Hospital, for the purpose of undergoing the necessary operation,

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but the unfortunate man arrived only a few minutes before he expired.' 'Any quantity of infusion containing more than half a drachm of tobacco,' Dr. P. further

remarks, 'cannot be injected without danger.' 'Tobacco clysters,' he also observes, 'were some years since recommended for the purpose of forwarding difficult parturition (labour), but the alarming symptoms which followed in the only case in which it was tried prevented a repetition of the experiment.'

Sir Ashley Cooper and Sir Charles Bell have both recorded cases of a similar kind. The latter surgeon, in speaking of the use of tobacco in a case of strangulated hernia, says, 'The patient's strength held up until the tobacco clyster (injection) was administered to him, after which he very suddenly fell low and sank.' Numbers of instances of a similar kind could be quoted from medical authorities.

Tobacco appears to be an equally deadly poison when introduced into the stomach. The celebrated French poet SANTEUIL was accidentally killed in this way at the Prince of Conde's table. A portion of Spanish snuff was put by one of his companions, a practical joker, into his glass of wine—this was after the bottles had passed rather freely. Soon after drinking the draught, the poet 'was attacked with vomiting and fever, and expired in two days amid the tortures of the damned.'

Proving the poisonous character of tobacco administered by the stomach, Dr. Christison cites a case that was furnished him by Dr. Ogston, of Aberdeen, Scotland, who was employed in the judicial investigation connected with it.

'An elderly man, a pensioner, was seen to enter a brothel while in perfect health, and in an hour he was carried out insensible, and was put down in a passage, where he was found by the police unable to speak or move. While carrying him to the watch-house, hard by, the officers observed him attempt to vomit; but he was scarcely laid down before the fire when he expired. It was ascertained that he had drunk both rum and whiskey in the brothel, and that something had been given him 'to [stupify](#) him or set him asleep.' On dissection, the blood was found every where very fluid, and four ounces of serosity, or watery substance, were found collected from the lateral ventricles and base of the skull. But there was no other unusual appearance, except that the stomach contained about four ounces of a thick brownish pulp, in which were seen several pellets of a powder resembling snuff. In these contents, Dr. Ogston could detect no opium, only tobacco. No doubt could exist that the man died of [poisoning with tobacco](#); but as no evidence could be obtained to inculcate any one in particular of many individuals who were in the brothel with him, the case was not made the subject of trial.'

The fumes of tobacco, as taken into the system by smoking, have been known to cause death. Not long since, in Salem, Massachusetts, the death of a lad named James Barry, aged twelve years, was said in the papers to have been caused by excessive smoking of cigars. Gruelin, a German medical author, states two instances of death from smoking, one person having accomplished seventeen pipes, the other nineteen at a sitting. Dr. Clay of England, says another German author states, 'that one half the deaths occurring in that country between the ages of eighteen and twenty-five, are attributable to smoking and chewing.' To one who has travelled in that country, and

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witnessed the almost incredible amount of smoking that is almost every where practised, this assertion would not appear so incredible.

There is an interesting account of the effects of the fumes of tobacco in a particular case quoted by Dr. Clay, of Manchester, England. He says, 'It occurred to Mr. Howison, on a voyage. When the evening was pretty far advanced, the master of the schooner conducted him to the cabin, which was almost full of large packages, and pointing out where he was to sleep, left him alone. He felt a heavy suffocation, but did not examine the contents of the bales and went immediately to bed. Soon afterwards he was harrassed by wild and frightful dreams, and suddenly awoke about midnight bathed in cold dew, and totally unable to speak or move; however, he knew perfectly well where he was, and had recollected everything that had occurred during the day, but he could not make any bodily effort whatever, and tried in vain to get up, or even change his position. The watch on deck struck four bells, and he counted them, though he did not hear the beats, but received the vibrations through his body. About this time, a seaman came into the cabin with a light and carried away an hour-glass that hung upon a nail, without observing him, though he made several efforts to attract his attention. Shortly after a pane of glass was broken by accident in the sky-light and he saw the fragments drop on the floor. These circumstances actually occurred, as he found on inquiry the next day, and he mentioned them to prove that the sensations he described were realities, and not the offspring of perturbed dreams. The inability to move was not accompanied with pain or uneasiness, but he felt as if the principle of life had departed from his frame. At length he became totally insensible, and continued so until an increase of wind made the sea a little rough, causing the vessel to roll. The motion had the affect of awakening him from his trance, and he contrived somehow or other to get up and go on deck. His memory was totally lost for about a quarter of an hour, and he had no idea connected with anything that was not present before him. He knew that he was in a schooner, but nothing more. While he was in this state, he saw a man drawing water from the sea in buckets, and requested him to pour one on his head; after some hesitation the man did so, and all his faculties were immediately restored, and he acquired a most vivid recollection of a vast variety of ideas and events which appeared to have passed through his mind, and occupied him during the time of his supposed insensibility. All this singular derangement had arisen from a copious inhalation of the fumes of tobacco; for, on examining the cabin, he found that the piles of packages consisted of that narcotic plant, and that quantities of it even lay under his bed; in short, that the vessel contained nothing else."

I am no friend to the barbarous and indiscriminate experimenting on animals which some anatomists and physiologists of modern times are so fond of. When a valuable principle of science is to be elicited, something that promises to be a means of ameliorating the condition of man, such experiments are legitimate and allowable, but not otherwise. Long since, lamentable experience has too often proved the poisonous character of tobacco, so that experiments on that point, were not needed. Yet they have been made over and over again, with no other object than to gain notoriety in things which are ex-

tremely revolting to every humane, sensitive mind. Let, therefore no more experiments be made on either man or animals, to prove the highly poisonous and destructive character of tobacco. If one should rise from the dead, the evidence could not be made more clear and positive than it now is.

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## CHAPTER IV.

### EFFECTS OF TOBACCO.

The grand characteristic of all narcotic substances, is their *anti-vital* or life-destroying property. When they are not so highly concentrated or energetic as to destroy life instantly, they produce the most powerful and often the most violent and distressing vital reaction, which causes a corresponding degree of exhaustion, depression, and prostration; and they often destroy life, purely by vital exhaustion in this violent and continued vital reaction. But when the discriminating sensibilities of the system have been depraved by the habitual use of these substances, and its powers of giving a sympathetic alarm greatly impaired, these same substances, even the most deadly in nature, if the quantity be only commensurate with the degree of physiological depravity, may be habitually introduced into the stomach, and even received into the general circulation and diffused over the whole system, and slowly but surely destroy the constitution, and always greatly increase the liability to disease, and almost certainly create it, and invariably aggravate it, without any of those symptoms which are ordinarily considered as the evidence of the action of a poison on the living body; but on the contrary, their stimulation is attended with that pleasurable feeling, and agreeable mental consciousness, which lead the mind to the strongest confidence in their salutary nature and effect.'—GRAHAM'S *SCIENCE OF HUMAN LIFE*.

THAT we may gain a more clear and correct idea of the specific and varied effects of tobacco on the human frame, some remarks of a physico-pathological nature will be necessary.

The various substances that are taken into the human system as sustenance or a means of excitement, may be divided into three great classes: first, simply water, by and through which all the vital processes are carried on, and of which the living body is mostly composed—there being about 90 parts in the 100 by weight of simple water; second, nutritious substances, such as the mother's milk, the esculent fruits, vegetables, grains, etc—things which are merely nutritious in their character, and contain no stimulating, narcotic, or medicinal principle; and third, substances which exert upon the living system a medicinal or excitant effect, and without affording any nourishment to the system.

The first of these substances, by the far the most universal and abundant in nature, is the best, most natural and in an undepraved state of the animal instinct, the most agreeable of all drinks. It is, moreover, the only one nature demands. But of itself, when pure and unadulterated by human inventions, water is, in its nature, an inert substance. Applied of a suitable temperature to the most delicate of the living tissues, it produces no excitement or vital reaction. It acts, however, by its

temperature, cooling the body or warming it, as the case may be. It acts, moreover, by moistening and lubricating the different parts, and affords throughout the entire system that amount of fluid which is indispensable to life and health, composing, as before remarked, by far the larger portion, of the whole system by weight. Substances of the second class mentioned, act in some respects differently from simple water, although they contain usually a very

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large proportion of that fluid in their composition. Thus milk is more than 90 per cent. water. The undried fruits contain about the same proportion. Beef tea is composed of between 98 and 99 per cent. simple water. A piece of plain beef-steak uncooked contains between 74 and 75 per cent. water, and common bakers' bread of the white or superfine kind, about 35 per cent.

When there is in the system a natural and healthful demand for nutriment, the substances generally used for nourishing the body, particularly those of the vegetable kingdom, are received as friendly agents, so to speak. They excite upon the living tissues no undue stimulation or excitement. When the infant at the breast needs nourishment, there is nothing so friendly and grateful to its system as the pure milk from the maternal breast. After the teeth have made their appearance, it readily takes to substance of more substantial form, as fruits and the preparations of farinaceous food. Gradually it comes to subsist wholly on the more substantial articles, leaving altogether the food it was at first accustomed to take.

As regards the third class of substances mentioned, those of a stimulating excitant, or medicinal kind, it is different. No child at first loves medicine, spirits, tobacco, tea, coffee, and other substances of a medicinal kind. I know it will be said that children very soon learn to relish tea and coffee, toddy, and, in some cases, tobacco; substances of the stimulating or medicinal class. It is true, almost every child in the civilized portions of the world at the present day, has some of these articles introduced into its system, almost from the very first.

Perhaps in the very first draught of milk it receives from its mother, there is a portion of one or another of the articles in question, for the lacteal secretion is a great vehicle and outlet for all medicinal or drug articles that are taken into the system. In this way infants have often been stupefied and made actually drunk, through the milk of the toddy drinking or tippling mother or nurse. Infants have been often narcotized and poisoned by medicines received in this way, and it is believed that life itself has been thus destroyed.

Even tobacco, loathsome as it is to the uninitiated, some children are taught to relish, by being subjected daily to the fumes of the detestable weed. Long before infants have left the breast, I have known mothers and wise old grand-mammas teach them to suck at the pipe, which themselves in their depraved appetite so much relished, and for which they daily thanked God in their hearts, as much as for the bread they ate. But all this does not prove that the infant naturally relishes any of these stimulants in common and almost universal use. All correctly-ascertained experience goes to prove the contrary. Even adult persons of undepraved appetites and instincts, loathe every one of these articles, as very poison. If we have not been subjected to their influence in any way, such will be the uniform result. From

alcohol, tobacco, tea, coffee, and so throughout the whole farrago of drugs and other stimulants, the animal insmets of an undepraved system always and invariably shrink.

In the light of these physiological principles, we may then proceed to investigate in detail the [effects of tobacco](#) on the human system, in the various forms in which it is used.

When tobacco is taken into the stomach in quantity sufficient to

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cause any considerable effect, extreme nausea and disgust and prostration follows. It excites also severe convulsions of the stomach and bowels to eject the poison. The infusion of a quantity so small as a single drachm into the bowels has not unfrequently destroyed life. So also in the common modes of using the article, as by smoking and chewing, nausea, sickness, and sometimes vomiting are caused. I well recollect myself, when at the age in which boys begin to think themselves men, and desire to imitate the foolish customs and practices so common among certain classes, I undertook to learn to chew. But before the first effort was half finished, I was fortunately made so sick that I have never wished to make the experiment again. Such is the effect upon all persons when they first commence either smoking or chewing, unless they are brought gradually under the influence of the drug, by being often subjected to its fumes from others smoking. The father or elder brothers, or mother or grandmother, are in the habit of smoking in the house, and as before remarked, the pipe is sometimes put into the mouth of the children, and thus gradually the [habit](#) may be acquired without sickness being produced, as in the other instances. But most users of tobacco can tell us of the times when they were nauseated, and made extremely sick in commencing its use.

But by degrees the system becomes accustomed to its effects. And here we have a proof of the remarkable phenomenon in animal physiology, that a substance which at first is nauseous, loathsome, disgusting, offensive, and which is capable of suddenly destroying life, by use comes at length to be [relished by the system](#) as its best friend. And more than this, the system becomes so habituated to its effects, that it seems [well-nigh impossible](#) for the individual to subsist without it. Behold the woman who has drank tea so much and so long that she experiences habitually *tea headaches*. She takes a 'good, strong cup,' and all at once, as if by magic, the headache is gone. Judging from the experience of the moment, she is led to believe that tea is a most sovereign remedy for the headache. But if she knew enough of the human system to take a more extended view of the matter, she would perceive that the very thing which appeared for the time to be so good a remedy, is the *cause* of the difficulty she experiences. So, too, the unfortunate inebriate, when he attempts to reform his habits, and feels that 'aching void' which none can appreciate except those who have experienced it, takes again to his cups, every sensibility of his system most emphatically tells him that of all things earthly, spirits are the very best. And the same principle holds good with tobacco, which obtains over men a [more powerful dominion](#) than either of the stimulants mentioned, enslaving them to a perhaps greater degree than that of any other substance, opium not excepted.

Thus it is in the physiology of the human system: a substance which is at first, to the pure and undepraved appetite, loathsome, disgusting, and sickening, becomes at length relished as a most friendly agent; and, to use a figure, the nerves of sensation become the angels of darkness, whereas they were, in the primitive state of nature, the angels of light. These principles of physiological science are of immense importance, and cannot be too deeply pondered by all who desire to live, as far as may be, in the permanent enjoyment of bodily and mental strength.

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## CHAPTER V.

### EFFECTS OF TOBACCO—CONTINUED.

From the habitual use of tobacco, in either of its forms, of snuff, cud, or cigar, the following symptoms may arise:—A sense of weakness, sinking or pain at the pit of the stomach, dizziness or pain in the head, occasional dimness or temporary loss of [sight](#), paleness and sallowness of the countenance, and sometimes swelling of the feet, an enfeebled state of the voluntary muscles, manifesting itself sometimes by tremulousness, weakness, squeaking, a hoarseness of the voice, rarely a loss of voice, disturbed sleep, starting from early slumbers with a sense of suffocation or feeling of alarm, incubus or night-mare, epileptic or convulsive fits, confusion or weakness of the mental faculties, peevishness and irritability of temper, instability of purpose, seasons of great depression of the spirits, long fits of unbroken melancholy and despondency, and, in some cases, [entire and permanent mental derangement.](#)—[Dr. MUSSEY](#) [*Health: Its Friends and Its Foes* (1862), [pp 100-101](#)].

#### TREMORS OF THE NERVES.

TOBACCO acts upon the living body probably through both the circulation and the nervous system. Any thing that is capable of producing such sudden and complete prostration as large doses of tobacco, must be supposed to act short of going the rounds of the circulation. We know, however, that the drug is in the end absorbed in a greater or less degree, and taken into the circulation, but its more sudden and prominent effect must be upon the nerves. Persons who have been for a time accustomed to it become gradually more and more *nervous*, as the common expression is; the hand trembles, sleep becomes less sound, and the individual not unfrequently starts in his slumber as if haunted by a ghost. I never knew a man have nerve strong enough to withstand the effects of tobacco. Some think they have; but it may always be seen that the hand of the smoker or chewer is tremulous, at least betimes, if we watch him on rising in the morning. One worthy old man I knew well, who had used tobacco to great excess; his teeth were worn up to the gums before the age of sixty, his hands became so trembling that he could scarcely convey the food to his mouth. He was a man of exceedingly robust constitution, and laboured at all seasons of the year in the open air; otherwise the effects of the poison on his system would have been still more painful. This is, I admit, an extreme case:

yet it is only an exemplification of what takes place to a less injurious extent, in multitudes of instances, in every community where tobacco is used. I repeat, all smokers and chewers have sooner or later tremulous hands.

It was [related by Dr. \[Benjamin\] Rush](#) [1745-1813], that Sir John Pringle [1707-1782] was afflicted with tremors in his hands, and had his memory impaired by the use of snuff: but on abandoning the habit at the suggestion of Dr. [Benjamin] Franklin [1706-1790], he found his power of recollection restored, at the same time recovering the use of his hands.

Irresolution, changeableness of mind, and reluctance to engage in the ordinary avocations and pursuits of life, all of which are indications of deranged nerves, are symptoms often found attending the use of tobacco.

#### HYPOCHONDRIASIS.

Hypochondriasis, vapours, or melancholy, is a very singular disease. There are, probably, in our country of inveterate smokers and chewers

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of tobacco, more hypochondriacs than in any other on the face of the globe. Many a case of this kind is caused in great part by tobacco. This is proved by the fact that when the tobacco is discontinued, the hypochondria is cured. It is a very singular disease, and belongs more properly to the class of *neuroses* or diseases of the nervous system. Hypochondriacal persons may be said to be in a state of [partial insanity](#). They can generally reason accurately on all subjects except such as immediately concern themselves. They imagine often that every thing conspires to operate against them; their business, however prosperous, they imagine is going to ruin; surrounded by kind friends and all the convenience and comforts that wealth can procure, they are yet haunted perpetually with the idea that they are coming to want. But more frequently it is in regard to the individual's health that the mind is disordered.\*

The causes of hypochondriasis I admit are numerous. Any thing that tends powerfully to deteriorate and derange the general health may bring on this protean affection. Excessive alimentation, spirits, tea and coffee, the abuse of medicines, indolence, licentious habits, dissipation of whatever kind, the keeping of late and irregular hours, novel-reading, grief, excessive bodily or mental labour, and a great variety of causes may aid in bringing on hypochondriasis. All that I say, then, in regard to the use of tobacco as a cause of this affection, is this; Tobacco, being one of the most powerful and deadly narcotics known, if used habitually, and in such quantity as seriously to [derange the nervous system](#), and through this the general health, may, and often does, become *one* cause of that most troublesome and intractable disease. But neither tobacco, nor any other agent, can be a specific of this disease.

#### HYSTERIA.

Hysteria, or, in common parlance, hysterics, one of the *neuroses*, and a most singular affection, is also to be mentioned as one of the effects of tobacco. Hysteria, although, in its original signification, an affection belonging exclusively to females, is nevertheless not unfrequently to be found with all its distinctive features in the opposite sex. As is well known, it often causes fits of alternate laughing and crying;

and at the same time the pitiable subject seems to have a heavy ball in the abdomen, that rises towards the stomach, chest, and

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\* Dr. Mackintosh thus describes this disease: 'Hypochondriac symptoms affect two classes of individuals: Those whose ailments are only imaginary or functional; and, 2. Those whose complaints are produced by organic disease. The first class of patients embraces the idle, the wicked, the dissipated, and those who are brought up without a profession, who, when left to their own resources, know not how to kill time. The minds of such persons are enervated from a want of due exercise of the faculties they may actually possess, till at last the vital actions become weakened, some of the natural functions, particularly those performed by the stomach and bowels, may be impaired; at which time, should a friend die, or the history of a disease fall in their way they will immediately fancy themselves affected with the same disorder. Or they may have a hundred and fifty different complaints, and think they experience a thousand strange sensations and unaccountable feelings, till bodily disease is, in the end, ingrafted on the mental. The organic disease acts upon the mind, producing a state which, to say the least of it, is far from one of insanity. The primary disease may be functional or structural. If the former, the stomach and bowels will in general be found to be the parts at fault; and I have sometimes discovered, on dissection, diseased states of the liver, lungs, kidneys, bladder, heart, blood-vessels, and also of the brain and its membranes.'

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neck, producing at the same time a sense of strangulation. There is sometimes partial unconsciousness and convulsions. This, then, a nervous disease, is sometimes caused mainly, or in part, by tobacco. Be it understood, however, that I admit there are many cases of hysteria where the drug has had nothing to do in the matter, it never having been used. All I claim is, that tobacco is one of the many causes of this most singular disease.\*

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\* No persons are more to be pitied than those who suffer from hysteria. . . .

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In some parts of the world where females make much use of tobacco, hysteria or hysterics, essentially a nervous disease, is found to be very prevalent. It is to be observed, however, that, as a general fact, those persons who use tobacco, use also the kindred stimulants, tea, and coffee, one or both of them, so that these articles, either of which may cause that disease, produce a portion of the effect caused. I know a pious old lady, who would think it a great insult, should any one question her title to being a 'good Christian.' She uses not only strong tea daily, as often at least as morning, noon, and night, but smokes her pipe even much oftener; and what is the result? She has had for many years hysterics so badly, that every few weeks

she gets the notion into her head that she is at the very point of death. She calls her friends about her to advise and admonish them in the most solemn manner. At one of these times, a worthy daughter of hers, who well understood how the devil was misleading her, said, 'Come, mother, let us go over to Mrs.—,' a neighbour she much loved; 'it will be more pleasant for you to die there.' Up the old lady jumped, and went quickly, although, as she would have it, she was on the very point of dying. It would be impossible to tell how much of the sin of using tea, coffee, and tobacco, may be excused on the score of ignorance in these old Christians; but certain it is,

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that since more light has gone abroad on the subject, the younger ones will have much to answer for in these things

#### INSANITY.

Tobacco has been ranked among the causes of insanity. On the great principle, that whatever tends seriously to injure the bodily functions, must also necessarily impair in a greater or less degree the mental manifestations, tobacco may undoubtedly be reckoned a cause of [mental aberation](#). If tobacco can produce hypochondriasis and hysteria, as we know it does, certainly we may infer that insanity proper may also be caused by its use. On this head, however, I will merely quote the words of a distinguished authority. Dr. Woodward. He observes: 'Tobacco is a powerful narcotic agent, and its use is very deleterious to the nervous system, producing tremors, vertigo, faintness, [palpitation of the heart](#), and other senous diseases. That tobacco occasionally produces [insanity](#), I am fully confident. Its influence upon the brain, and nervous system generally is hardly less than that of alcohol, and, if excessively used, is equally injurious. The young are particularly susceptible to the influence of these narcotics. If a young man becomes intemperate before he is twenty years of age, he rarely lives to thirty. If a young man uses tobacco while the system is greatly susceptible to its influence, he will not be likely to escape injurious effects that will be developed sooner or later, and both diminish the enjoyment of life and shorten its period. In our experience in this hospital, tobacco in all its forms is injurious to the insane. It increases excitement of the nervous system in many cases, deranges the stomach, and produces vertigo, tremors, and stupor in others.' Dr. Chapman, of Philadelphia, informed his coadjutor, Dr. Wood, as is stated in the United States Dispensatory, 'that he has met with several instances of [mental disorder](#) closely resembling delirium tremens,' which resulted from its abuse, and which subsided in a few days after it had been abandoned.'

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#### CHAPTER IV.

##### EFFECTS OF TOBACCO—CONTINUED.

'Tobacco impairs the natural taste and relish for food, lessens the appetite and weakens the powers of the stomach.'—Dr. J. C. WARREN.

'It is a mistake to suppose that smoking aids digestion. The very uneasiness which it were desirable to remove, is occasioned either by tobacco itself, or

by some other similar means. If tobacco facilitates digestion, how comes it that after laying aside the habitual use of it, most individuals experience an increase of appetite and of digestive energy, and an accumulation of flesh?'—  
MUSSY.

#### EFFECTS OF TOBACCO ON THE TEETH.

THE pernicious effects of tobacco on the teeth are easily proved, although it has been pretended by some that tobacco is a preservative of these useful organs. The delusion grew out of the fact that tobacco is found sometimes to have the effect of benumbing the nerve of aching teeth. But the teeth of tobacco chewers, who have continued the practice for a considerable length of time, are generally bad, as any one may observe. It was once said in the presence of

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clergyman of our acquaintance, that tobacco was good for preserving the teeth, upon which he answered, 'That is not true, for on one side my teeth are perfectly good, while on the other side, the one in which I have always kept my cud, there is not a stump left.' Query: For what did he use it?

The first and most prominent effect of tobacco upon the teeth is that of softening them. In some instances they become literally worn to the gums, and in others, decay. The mischief is likewise partly caused by indirect effect upon the masticatory organs through the general health, partly by the natural friction of chewing, and partly by the gritty substances the article contains. I know several old men in the country who have from early youth used freely of tobacco in the mode of chewing, and whose teeth are worn quite to the gums, and yet the fangs or roots of the teeth are, in some instances at least, sound. In some of these cases there is also great tremulousness of the nerves, and extreme emaciation of the whole body. Had these individuals not led a country life, spending a great share of their time in the open air, and actively engaged in the healthful duties of farmers, their condition would have been commensurately the worse.

Concerning the fact that the teeth of tobacco-chewers become worn down by the use of tobacco, Dr. Mussey, remarks 'I have observed this in the mouths of some scores of individuals in our own communities, and I have also observed the same thing in the teeth of several men belonging to the Seneca and St. Francois tribes of Indians, who, like most of the other North American tribes, are much addicted to the use of this narcotic. In several instances, when the front teeth of the two jaws have shut close, the surfaces of the grinders in the upper and lower jaw, especially where the quid had been kept, did not touch each other, but exhibited a space between them of one tenth to one sixth of an inch, showing distinctly the effects of the tobacco, more particularly striking upon those parts, to which it had been applied in its most concentrated state.'

The injury of tobacco on the teeth then, is, first, by direct contact of the poison acting on the vitality of the part; second, through the effect of attrition in wearing them down; and third, indirectly by its pernicious effect upon the fluids of the system and the general health.\*

The *gums* are, in many cases, made to recede from the teeth by the use of tobacco; and when this effect has once taken place, there is no possible means of making them adhere again. Persons often lose teeth in a perfectly sound state, merely by having the gums loose about them. Dr. J. C. Warren, of Boston, judiciously observes, 'that while tobacco can have no material effect in preserving the bony sub-

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\* "Concerning the effects of tobacco on the teeth. Dr. Alcott observes: 'But granting the most which can be claimed for tobacco in the way of preserving teeth—grant that it benumbs the nerves, and thus, in many instances, prevents pain—grant, even, that it occasionally precludes all other decay, except the premature wearing out of which I have spoken—still, the general truth will remain, that it injures the gums and the lining membrane of the mouth, stomach, and alimentary canal generally, and, in fact, of the [lungs](#) also; and thus not only prepares the way for various diseases (to be mentioned hereafter), but spoils the beauty, injures the soundness, and hastens the decay of these organs. It was no doubt the intention of the Creator, that the teeth should last as long as their owner. Yet, in how few of a thousand tobacco-chewers, or smokers, or snuff-takers is this the result?'

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stance of the teeth, it has a sad influence on their vitality, by impairing the healthy action of the gums.

#### THE MOUTH.

It cannot be affirmed [in 1849] that tobacco has any specific effect in causing diseases of the mouth, but that it injures [this part](#) as any other powerful irritant might do, cannot be questioned. The gums, as well as the tongue and lips, are very subject to that serious and painful affection, cancer. Dr. Warren, before quoted, is as good authority in surgery as can be referred to. He observes: 'For more than twenty years back, I have been in the habit of inquiring of patients, who came to me with cancers of these parts (the gums, tongue, and lips), whether they used tobacco, and if so, whether by chewing or smoking. If they have answered in the negative as to the first question, I can truly say, that, to the best of my belief, such cases of exemption are exceptions to a general rule. When, as is usually the case, one side of the tongue is affected with ulcerated cancer, the tobacco has been habitually retained in contact with this part. The irritation of a cigar, or even from a tobacco pipe, frequently precedes cancers of the lip. The lower lip is more commonly affected by cancer than the upper, in consequence of the irritation produced on this part by acrid substances from the mouth, among such substances what is more likely to cause a morbid irritation, terminating in disease, than the frequent application of tobacco.'

I believe cancers, severe ulcers, and tumors, in and about the mouth, will be found much more common among men than women. Since the former use tobacco much more generally than the latter, may not this be a cause.

#### THE TASTE.

That tobacco injures the taste—I mean in a physiological sense—is almost too notorious to need mention. Those especially who chew are injured in this respect. Every one must have observed the dull and almost obliterated taste of the tobacco-chewer. Plain and wholesome food is utterly insipid to him. He must have every thing seasoned in the highest manner, and even then he often wonders that the food is so insipid. Luscious fruits, which are so pleasant to the undepraved palate, the tobacco-chewer loses all relish for, and often entirely abandons their use. And the worst part of this whole matter is, that tobacco, by blunting the keen sensibilities of the parts concerned, leads men to an almost ungovernable desire for strong drink. And there is another evil, which is, that when inebriates, who have been users of tobacco, reform, they practice still greater excess in the use of the abominable weed, to answer in some degree the cravings for alcoholic stimulus. The bad habit of using tobacco, then, works evil in two ways: first, to cause the individual to desire a stronger stimulus; and, second, when the stronger stimulus is discontinued, to take more and more of the tobacco, in order as far as may be to make up for that stimulus.<sup>\*</sup>

\* Dr. Adam Clarke remarked, that 'so inseparable an attendant is drinking on smoking, that in some places the same word expresses both: thus *peend* in the Bengalee language, signifies to *drink* and to *smoke*.' It is with pain of heart that I am obliged to say that I have known several who, through their immoderate attachment to the pipe, have become mere sots. George Sullivan

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#### THE VOICE.

Public speakers not unfrequently make a liberal use of tobacco, sometimes by smoking, sometimes by chewing, and sometimes by both. Some clergyman find themselves unable to preach unless the pipe or quid has been resorted to just before commencing the pulpit exercises. They feel a troublesome dryness of the mouth and throat. That these individuals are sincere in their belief concerning the good effects of tobacco in their cases, there can be no doubt. They are as honest as the old women are, who cure their tea-headaches with an extra 'good strong cup,'—when they assert that tea is one of the best things in the world to cure headache with; and the latter are not more mistaken than the former. This dryness and parched condition of the throat, are of themselves symptoms of a diseased condition of the part. At first, the habit of using tobacco was commenced foolishly, or perhaps by the advice of some physician, who knew no more of the true science of healing than the man who put the cart before the horse. Why cannot these would-be wise men of the profession, who have so often recommended tobacco for the difficulties of the throat, remember, *that the constant and habitual use of any medicine, however good, will with indubitable certainty, wear itself out; and that the effects which at first appeared to be good, become ultimately, in all cases of long-continued use, bad*. This axiom, be it remembered, holds good in the use of all drugs. What were at first the symptoms of cure, become, by long-continued use, the symptoms of disease.

There are cases in which this tendency to dryness of the throat in public speaking would, without the use of tobacco, become so severe and the hoarseness so great,

that it would be very difficult to proceed in the exercise. However if persons will persevere, and rid themselves wholly of the noxious drug, they will find that within a reasonable time, a few weeks, or at most, months, the [unpleasant symptoms](#) will pass off. Especially will this hold true, if at the same time other

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said, 'that the tobacco pipe excites a demand for an extraordinary quantity of some beverage to supply the waste of glandular secretion, in a proportion to the expense of saliva; and ardent spirits are the common substitutes; and the smoker is often reduced to a state of dram-drinking, and finishes his life as a sot.' And the learned and sagacious Dr. Rush remarked, 'that smoking and chewing tobacco, by rendering water and other simple liquors insipid to the taate, dispose very much to the stronger stimulus of ardent spirits,' and that 'hence the practice of smoking cigars has been followed by the use of brandy and water as a common drink.' Also some years ago a writer in the *Genius of Temperance* (American) said that the practice of smoking and chewing tobacco 'produced a [continual thirst for stimulating drinks](#);' and that this tormenting thirst 'led him into the habit of drinking ale, porter, brandy and other kinds of spirits, even to the extent, at times, of partial intoxication;' and then he added, 'I have reformed; and after I had subdued this appetite for tobacco, I lost all desire for stimulating drinks.'

The inhabitants of Northern Siberia, male and female, we are told, swallow the smoke of tobacco for the purpose of bringing on a stupefaction, as pleasurable as that of drunkenness to the spirit-drinker. But this is what the good and Christian lovers of tobacco would call the intemperate use of the delectable weed—the good thing God has given with which to soothe the heart. But as in the case of spirit-drinking it would, we think, be a somewhat puzzling question, in the science of morality, to determine precisely how many quids, how many pipes full, how many 'pinches,' and how many cigars, in short, what precise quantity would in any given case come under the head of *Christian moderation*.

The senses of [sight](#), smell, and [hearing](#), are also injured by the use of tobacco.

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proper means be used to invigorate the general system and its local parts; such as exercise daily in the open air, bathing, tepid, cool, or cold, according to the season of the year and the individual's strength; washing and rubbing well the throat frequently with the hand wet in cold water, gargling with the same, and the use of water as the only drink; these and the like means, in connection with complete and entire abstinence from tobacco, are the natural and best means that can be resorted to in such cases.

It will be inferred, then, from these remarks, that tobacco, like tea, coffee, and all stimulants that tend to inflame the fauces, throat, and other parts concerned in speech, is injurious to the voice.

Since writing the above paragraphs, I have found, in an excellent article on tobacco in the *London Medical Gazette*, published some months ago, by Dr. Thomas Laycock, the following judicious observations:

'The first and simplest morbid result of excessive smoking, is an inflammatory condition of the mucous membrane of the lip and tongue, and this sometimes ends in

the separation of the epithelium. Then the tonsils and pharynx (upper part of the throat) suffer, the mucous membrane becoming dry and congested. If the throat be examined, it will be observed to be slightly swollen, with congested veins meandering over the surface, and here and there a streak of mucous. The inflammatory action also extends upward into the posterior nares (openings to the nostrils), and the smoker feels from time to time, a discharge of mucous from the upper part of the pharynx, in consequence of the secretion from the mucous membrane of the nares collecting within them. The irritation will also pass to the conjunctiva (and I am inclined to think from the nares, and not by the direct application of smoke to the eye), and the results are heat, slight redness, lachrymation (running of tears), and a peculiar spasmodic action of the orbicularis muscle of the eye experienced, together with an [intolerance of light](#) on awakening in the morning.'

'Tobacco when used in the form of snuff,' says Dr. Rush,\* 'seldom fails of impairing the voice, by obstructing the air.' 'The truth of this remark, though made about half a century ago, we see verified in the case of thousands of public speakers. It is not the snuff-taker alone, however, who injures his voice by tobacco, though the injury which he sustains may be most immediate and severe. By the dryness of the nasal membrane, which chewing and smoking produce, these vile habits have a similar effect. The smoke of the tobacco contains many [fine particles](#) of the weed itself, which lodge in the passages. These particles exert a destructive influence on the nerves of every part they touch. The smoke itself also contains a great portion of the deadly spirit or power of the tobacco, and operates on the nerves of every part it touches in the same destructive manner. Besides this deadly influence on the nerves, the acrid power of the tobacco operates injuriously on the muscular tissues and delicate fibres of the organs of voice.†

#### THE THROAT.

It must be evident that any agent which is known to cause serious

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\* It is, I presume, generally known that Dr. Rush gave perhaps more attention to investigations concerning the human voice than any other physician who has ever lived. His writings on this subject are probably the best extant.

† [Dr. Alcott](#).

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diseases of the gums and mouth, and to impair materially the voice, must also be detrimental to the throat. Beyond doubt, chronic throat disease which is so prevalent at this day, is often caused, in great part, by the use of tobacco. This arises not from any specific nature of the drug, but first, from its effects on the mouth and throat locally, second and mainly, from its pernicious [effects](#) on the general health.

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#### CHAPTER VII.

#### EFFECTS OF TOBACCO—CONTINUED.

'Tobacco, even when used in moderation may cause dyspepsia, headache, tremors, vertigo.'—Dr. R USH .

'Who can see groups of boys of six or eight years old in our streets smoking cigars, without anticipating such a deterioration of our posterity in health and character, as can scarcely be contemplated, even at this distance, without pain and horror?'—Dr. R USH

#### CONSUMPTION.

IN reference to the effects of tobacco on the respiratory organs, it becomes a question of great importance, whether it has any effect in causing that dreadful disease, consumption; a malady that has become so common in the United States as to be termed the *American* disease; a malady which, when firmly seated upon the individual, can rarely if ever be cured. Our country is becoming more and more settled, and should therefore, other things being equal, become also more healthy. There can, however be no doubt, that within, the last fourth of a century [1824-1849] this disease has increased in the United States. Since railroads, canals, steamboats, ships, and other means of conveying the so-called luxuries of life from the different parts of the world to almost every nook and corner of our wide country, have been so much improved, the dietetic and other hygienic habits of our people have become much changed. Thus it is, doubtless, in part that consumption has, within that time, become more frightful in its ravages than when a state of greater simplicity obtained.

As to the use of tobacco, I am well aware it will be objected that females, who, in our country, seldom use the article, are yet very subject to consumption. But the disease is hereditary in a large proportion of cases. In that case, the effect of unfriendly agents would be only the more rapidly to develop the disease. There being no public registry of births and deaths in most parts of the United States, it would be difficult to form an opinion as to whether males or females suffer most from this disease.

But it cannot be doubted that tobacco has an influence in many cases, in causing and developing consumption. While the narcotic effect of the plant is exerted on the nervous system, we know that inflammation and ulceration of the throat is often found in cases of those who smoke freely. A short, hacking cough is also to be observed, attended sometimes with the bringing up dark, grumous blood. On the whole, no important part of the system is so liable to disease as that delicate structure, the lungs. I have known of some cases, and heard of numbers of others, in which tobacco has been at least a prominent cause in developing consumption. This has been proved true from the fact, that on discontinuing the use of the drug a great

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amelioration of the symptoms has taken place, and in some cases a complete cure has been thus effected.

It will be understood, then, I do not affirm that tobacco is the principal cause of the fearful ravages of consumption in our country. The causes are many and complex, and need deep study and investigation to enable us to arrive at accuracy of results.

Could we know the whole truth in the matter, we should doubtless find that, besides a variety of debilitating habits, the use of stimulants and narcotics, such as wine, spirits, tea, coffee, and tobacco, have had much to do in causing and developing this most stealthy and insidious disease.

Any agent whatever that poisons the system, however gradually, may cause ulceration and destruction of the lungs.

#### PALPITATION OF THE HEART.

A nervous palpitation of the [heart](#) is often caused by the use of tobacco. This effect may be produced either by the action of the narcotic on the nervous system, or indirectly through its effect upon the stomach, which, in certain diseased states, acts by sympathy on the heart, producing the palpitation. I am certain that any physician who will carefully observe a sufficient number of cases of palpitation, will find that I am correct in this position. Many a man has been treated a long time for what was termed a *heart disease*, and without any good effect whatever. In many of these cases, the great and most important thing necessary has been to *abstain from all use of tobacco*. But here I must observe, also, that the use of strong tea and coffee very often produces the same results; so that, if the disease had been caused principally by tobacco at first, and if this were discontinued, and not the former articles, the user of tobacco would, in many instances, fail of obtaining a cure. Avoid tobacco, tea, and coffee—in short, all narcotics—this is the rule; a practice which, followed faithfully and perseveringly, will in every case be attended with the best results.

#### DIFFICULTY OF BREATHING.

The use of tobacco besides tending to cause and develop consumption, has sometimes the effect of impairing the [function of respiration](#). I think any one who will observe closely, and notice those persons who have [addicted](#) to smoking for fifteen or twenty years, and in many cases a less time, will perceive that the respiratory function does not go on as perfectly as it ought. There is a kind of *wheeziness* of the breathing; the man is *short-winded*, so to say. I have seen, in numbers of instances, this difficulty exhibited in a remarkable degree. A great smoker is never a great pedestrian.

There is also the sudden starting and choking sensation, with a feeling of weight and great oppression about the [heart](#), with, at the same time, an extreme difficulty in taking in the breath. That tobacco is the principal cause of these difficulties has been proved, as when the article is discontinued the symptoms soon vanish.

It is to be observed, however in this connection, that both tea and coffee used freely, do in some cases cause these last-mentioned nervous symptoms of breathing and oppression about the heart. Any narcotic, preserved in, may bring about these results. It is the effect of the poison upon the nervous system generally in these cases.

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A case is quoted by the Rev. Mr. Lane, in [Mysteries of Tobacco](#), from Dr. Clarke, as follows: 'A person of my acquaintance who had been an immoderate snuff-taker for upwards of forty years, was frequently afflicted with a sudden suppression of breathing, occasioned by a paralytic state of the muscles, which serve for respiration. The only relief she got in such cases was from a cup of cold water

poured down her throat. This became so necessary to her, that she could never venture to attend even a place of public worship without having a small vessel of water with her, and a friend at hand to administer it! At last she abandoned the snuff box; the muscles re-acquired their proper tone, and in a short time after, she was entirely cured of her disorder, which had been occasioned solely by her attachment to her snuffbox.'

#### INDIGESTION.

In the country parts of the United States, we often find persons who tell us it is absolutely necessary for them to use tobacco. They were in the habit of '*spitting up their food*,' for which the doctor told them to commence taking it. The oracle of the doctor is the veriest law and gospel whenever it agrees with the propensities of patients. But I have known some well-meaning, pious people brought into the habit in this way, and when once it is fixed upon them, not one of a hundred has the power to leave it off. That there is such an effect of tobacco in certain cases of indigestion (spitting up food), there is no doubt. It happens in this wise; the stomach has been worried and goaded habitually with too much and improper kinds of aliment; perhaps the brain has been for a long time subjected to too much excitement, which is always visited to a greater or less extent upon the stomach: by a severe attack of sickness with imprudent dosing, or perhaps by dosing in a smaller and more continued way, the stomach has become so weak that often a part of the food is rejected.

Now in such cases the symptom is a good one rather than otherwise. If too much is given for the weak and debilitated stomach to do, it is better if it have power to eject a part of its load. It can then go on more favourably in the fulfilment, of its difficult task. But the tobacco is taken, the organ is stupefied into the submission of retaining its load. Thus the very symptom which patient and physician are combatting in such a case is a good one, and ought not to be interfered with, except that less food should be taken. But such advice physicians know too well is never obeyed, nor are people apt to pay for a thing so simple as that. Hence it is that physicians often find it necessary, to advise differently from that which they know would be in reality the best.

As to the symptom in question, I say, unhesitatingly, it is better not to interfere with it by administering drugs; and especially a drug that fixes a habit so strong and ungovernable upon the system as the use of tobacco. Use the natural means of invigorating the *whole* system, and thus the weak part will become strengthened. By no other means can it be. It is easy to give stimulants which will delude the individual for the time, but harm is the only and inevitable result from such practice; and in no case should the stomach be given too much to do.

Among the great and almost innumerable family of symptoms belonging to indigestion, there is none that may not be caused by

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tobacco. Spitting up food, pain in the stomach, acidity, heart-burn, loss of appetite, disrelish for all simple articles of food and drink, eructations, flatulency, constipation, constipation alternating with diarrhoea, palpitation, tremulousness, fulness in the head, giddiness, stupor, deprection of spirits, weakness of the eyes,

wasting of the flesh (but in some cases the opposite extreme), derangement of the liver, pallor of the countenance and sallowness—such are some among the multitude of symptoms that are known to be caused by the use of this detestable [drug](#).

#### CONSTIPATION.

Some persons who suffer from constipation smoke in the morning for the purpose of causing the bowels to act. The cathartic effect of tobacco is one of its prominent results when taken in considerable quantity. And it is also true, that with many persons in whom there is a tendency to torpor of the bowels, the smoking of a cigar will bring about this result. Whether the effect be a good one, let us enquire.

How does a cathartic or aperient substance act thus to cause the peristaltic motion of the colon or lower bowel? By its action, indirectly, as an undue and unnatural stimulant to the part. This is the case with all such substances; and who does not know that the habitual use of any article of the kind never cures the difficulty—only in the end makes it worse? Look at the immense amount of pill-taking in the United States, the most pill-gullible and pill-accursed country on the face of the earth. What an amount of mischief is thus done the health, *by keeping up a mode of drugging the system for evils which the drug appeared at first to remedy*. Pills never yet cured a case of constipation, and never can; the same also is true of tobacco.

#### REDUCING THE FLESH.

Tobacco has a tendency generally to reduce the flesh; so much so that many persons are made too lean by its use. There is not only leanness, and the usual symptoms of dyspepsia, but a dark, unhealthy sallowness of the complexion. On the other hand, we sometimes, though not often, find very fat persons who use liberally of the weed. Hence the same causes may produce apparently opposite results.\* That state of the system is also one of disease.

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\* In those cases where it becomes necessary to devise means of counteracting the too great tendency to fleshiness, there are much better means that may be resorted to, better and more effectual than tobacco would be, even if it exerted no ill effect upon the system. Let persons use pure soft water as the sole drink; practice daily bathing, exercise in the open air, and adopt a diet regulated upon physiological principles, such as brown bread, potatoes, fruit, milk, and water. Then there will not be too much flesh. And such means, moreover, while they are the most effectual for accomplishing the desired object, are at the same time peculiarly favourable in promoting the health, strength, and permanent well-being of the whole system. It is not so with the tobacco process, vinegar-drinking, and things of the like kind.

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#### APPENDIX.

Let it be understood that no creature, when all the organs are performing their natural offices, will either spit or throw off the secretions of the mouth.

Tobacco destroys the exquisite flavor of taste.

Farmers who neglect their calves, and permit them to go lousy, will tell you that a decoction of tobacco is good to sprinkle along the back, to destroy the vermin; but care should be observed in not using it too freely, for if so, it will destroy the calf also.

Some contend that smoking preserves the teeth from decomposition; and assert, as a reason, that hams smoked will be preserved longer than without its agency; but whoever should attempt to smoke their hogs while *living*, he would be liable to be taken up and sent to the lunatic asylum.

Tobacco causes the gums to recede from the teeth, consequently loosening them. To show the more specific effects of tobacco on animal life, I will give the following facts:

I took common tobacco, and soaked it in water about the temperature of the blood, and after procuring a number of frogs, applied a portion of the juice where the hind legs are connected with the body. The first leaps were violent and two or three feet in length; but the succeeding leaps grew shorter and shorter until the muscles became so weak that the animal was unable to draw the legs up to jump again. They remained in that position until signs of life were invisible, and on the third day the animal began to decompose.

The others had it applied on the back and legs, and in less than half an hour, life was not perceptible. Those which had it applied in the mouth, vomited, and soon died. It was tried on mice with similar results.

A poor farmer (as related to me recently), with but one cow and horse, found them covered with lice. A benevolent friend gave him a bottle of the juice of tobacco, as he had heard that it would destroy the lice at once. The owner thanked him for the article, and poured it along the back and tail of the horse and cow according to direction. They soon showed signs of weakness, and lay down; one survived six hours, and the other about twelve.

A parent applied tobacco to the head of his son, in order to destroy the inhabitants of that region. The tobacco made the child sick, and stopped the regular secretions for a time, which marked his nails and teeth; the latter marks he will carry through life.

Some sheep had it used on them for destroying ticks; it marked that portion of the wool formed during the time the secretions were interrupted. The marks could be seen with a magnifying glass, and by taking hold of each end of the fibres, they would first break where the marks were.

An individual residing in the city of New York, who trains and speculates in dog's for a livelihood, informed me that he thought one of his most valuable dogs did not appear very well, and concluded he would give him an emetic. Consequently, he soaked a cigar in order to obtain the juice for the above purpose; but before the dog had had the dose on his stomach one minute, he was dead.— [JOHN BURDELL](#), *No. 2, Union Place, Union Square, New York.*