

*Trall (R. T.)*

Prize Essay.

# TOBACCO:

ITS

## History, Nature, and Effects.

WITH

FACTS AND FIGURES FOR TOBACCO-USERS.

BY

R. T. TRALL, M.D. *✓*

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Fowlers and Wells, Publishers, Clinton Hall, 131 Nassau street, New York.

To this Essay was awarded one of the prizes offered in April, 1853, through the "Water-Cure Journal" and the "American Phrenological Journal," by a benevolent and philanthropic gentleman of the State of New York, who prefers for the present to remain unknown, but who hopes, by its publication, to aid in suppressing a degrading and dangerous habit, and in preventing the young from ignorantly becoming its willing victims.

The series of Tobacco Essays of which this Tract forms a part, is but the beginning of the end of what he designs. Should the world be found to have been improved by his efforts, he will consider it an ample reward for all he has done, or may do hereafter. Who will aid him by circulating this Tract

### INTRODUCTION.

NICOTIANA TABACUM is the botanical name of a plant which, by the common consent of the civilized world, has been designated as "the filthy weed." I think this term is a misnomer. Tobacco is an organic product. It lives, grows, matures, decays, and dies in the common order of nature. It was created by God, and hence *must* be "very good." It is *useful* too; for God has made nothing in vain. The particular purpose it serves in the economy of creation we cannot, perhaps, very satisfactorily explain. It may, like a thousand other productions of the vegetable kingdom, absorb and condense noxious elemental gases floating in the atmosphere, and recombining them in new forms of matter, transmit them to earth as component parts of the soil; by which process the atmosphere is purified, and the surface of the earth gradually enlarged for the accommodation of its ever-increasing inhabitants.

But if we cannot substantiate its *use*, we can at least demonstrate its *abuse*. Its relation to the human organism is that of a virulent poison; and its employment, in any form, as a luxury, is a violation of natural law, and a source of debility, imbecility, immorality, impiety, poverty, misery, disease, and premature death.

All this we can positively prove. Yet in order to apprehend clearly the force of the various points of testimony, it is necessary to glance at the subject in all its relations to human beings, both in their individual and in their associate capacities.

## HISTORY OF TOBACCO.

AGES before the discovery of America, the savages in some parts of this continent had learned to seek sensuous gratification in chewing and smoking Tobacco ; and the evidence of the employment of this narcotic, furnished by the specimens of pipe-making found among the Mongol tribes, points to a period long anterior to that era. On his arrival at Cuba, in the year 1492, Columbus beheld, for the first time, the strange phenomenon of a man drawing Tobacco-smoke into his mouth through a burning cigar. Hernandez de Toledo soon after introduced the plant into Spain and Portugal. John Nicot, after whom the plant has been named, sent the seeds to France about the year 1560. Sir Francis Drake, on returning to England with the Virginian colonists in 1586, introduced there the use of the article ; and about the year 1589, the Cardinal Santa Croce conveyed " the weed " from France to Italy. From these points it spread rapidly over almost the whole of the inhabited portions of the globe.

The plant is now cultivated and used throughout the whole extent of the United States, Canada, New Brunswick, Mexico, the Western Coast, the Spanish main, Brazil, Cuba, St. Domingo, Trinidad, Turkey, Persia, India, China, Australia, the Philippine Islands, Japan, Egypt, Algeria, the Canary Islands, and the Cape of Good Hope.

But a habit so intrinsically disgusting, and so self-evidently inimical to individual health and social decency, did not overrun the land and sensualize the people without a struggle. As with its twin-fiend of evil, alcohol, its use was at first opposed, then tolerated, next embraced, and finally eulogized. Dr. Paris remarks : " It has been successively opposed and commended by physicians ; condemned and eulogized by priests and kings ; and proscribed and protected by governments."

King James the First of England, and his successor Charles, prohibited its use, under severe penalties. James wrote a book, the " Counterblaste to Tobacco," in which he declared that smoking is a custom " loathesome 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 smoake of the pit that is bottomless."

" Quaint Burton" expressed himself in the following strain—more truthful than elegant, perhaps—in relation to the common use of Tobacco, which he termed its common abuse : " It is a plague, a mischief, a violent purger of goods, lands, and health ; hellish, devilish, damned Tobacco, the ruin and overthrow of body and soul." Queen Elizabeth published an edict against its use. In 1593, Shah Abbas interdicted its use in Persia by penal statutes. In 1624, Urban VIII. excommunicated all snuff-takers who defiled St. Peter's Church by taking a pinch within its walls. In 1653, a severe punishment was decreed against all who smoked Tobacco in the canton of Appenzel. In

Russia, about the same time, the penalty of death was proclaimed against the offence of Tobacco-chewing, while those who smoked were condemned to have their noses cut off. In 1690, Pope Innocent XII. renewed the bull of Pope Urban ; but in 1724, Benedict XIV., having become a snuff-taker himself, repealed the edict. In Constantinople, about the same time, 1690, every Turk caught in the indecent act of smoking was conducted in ridicule through the streets, seated on an ass, his face directed toward the animal's tail, and a pipe transfixed through his nose.

Such facts show how fearfully apprehensive were observing men, of the evil influences consequent upon the prevalence of a habit so utterly unclean and besotting, as is the employment of Tobacco in any form. Shrewd men in all nations where the luxurious indulgence in the use of alcohol, opium, or Tobacco, had become a habit with the people, have foreseen and foretold the disastrous results to society, and the degeneracy of individuals, which must inevitably follow the habit, and have warred with all their strength against the threatened evil. Alas, their worst forebodings have been more than realized in either case !

#### PREVALENCE OF THE HABIT.

Notwithstanding more than a hundred volumes have been written to put down the detestable habit of using Tobacco as a luxury, it has been, for nearly four hundred years, constantly extending the area of its most abominable and relentless slavery, and is at this moment making more rapid and more fatal progress, especially amongst the rising generation of this country, than at any former period of the world's history. By transforming the natural appetences, it has triumphed over authorities, books, reason, argument, ridicule, denunciation, imposts, statutes and punishments, and is, next to alcoholic beverages, the besetting vice of Christendom.

In some countries, men, women, and even children are addicted to smoking. In Campeachy, we are told, it is common for children two and three years of age to smoke cigars. Kotzebue tells us that in the Sandwich Islands children often smoke before they learn to walk ; and that adults frequently fall down senseless from excessive indulgence in this habit. In India, all classes and both sexes smoke. In Hindostan, boys of fourteen and fifteen use Tobacco excessively. In the Burman Empire, both males and females smoke incessantly ; even nursing infants have the lighted pipe put into their mouths occasionally by their smoking mothers. In China, young girls wear, as an indispensable appendage to their daily dress, a silken pocket to carry a pipe and Tobacco. In South America, both sexes use Tobacco. In Lima, women are daily seen puffing cigars in the streets ; and in Paraguay the " fair sex " befool their mouths every day by chewing.

But these places are inhabited by barbarous tribes or semi-civilized nations. How is it with enlightened and Christian peoples ? The Germans smoke a large portion of their time. The French and Spanish smoke to great

excess. The English consume immense quantities of Tobacco, and take the lead in snuffing. And, lastly, in the United States more Tobacco is raised and consumed in proportion to the population than in any other country. Most of the foreign population of this country are inveterate smokers; and a large and increasing proportion of the natives, particularly great boys and small young men, are addicted to the general folly.

In the streets of our large cities, Boston excepted—for though there, as elsewhere, all have the largest liberty to defile themselves in their own places, none are licensed to poison the common air—in most of our villages, and even in many country-places, lads of eight, ten, and twelve years are frequently seen puffing the dirty roll, as though it proved the possession of at least one *manly* accomplishment!

Nor is it uncommon in the streets of New York to see children, infants, —yes, *babies*—smoke cigars. I have, on several occasions during the last year, witnessed groups of little ragged urchins, of ages apparently ranging from three to six years, enjoying the “social smoke” on the sidewalk, with as much complacency and self-satisfaction as is manifested by the most “fashionable exquisite,” whilst promenading Broadway behind the fetid cloud which emanates from his mouth and nostrils. And I have repeatedly noticed little boys, of not more than eight or ten years, imitating the greater folly of older persons in buying a penny paper of chewing-Tobacco, and taking a “stiff quid” with as much gravity and quiet dignity as would be expected from the most experienced Tobacco sot in the world. And more and worse than all this: Some of the *ladies* of this refined and fashion-forming metropolis are aping the silly ways of some pseudo-accomplished foreigners, in smoking Tobacco through a weaker and more *feminine* article, which has been most delicately denominated *cigarette*. It is a fit accompaniment to the beautifully-colored *rum-drops*, which the ladies may purchase at the fashionable refectories under the name of candy.

Can any person imagine a more ludicrous scene than that of the gallant or lover promenading the streets, or parks, or gardens of our city, with his fair companion or intended on his arm, and pouring kind flattery into her ear from one corner of his mouth, whilst he puffs rank and nauseous poison into her face from the other?

Nearly all the grocery-stores, where our children or servants are daily sent for provisions and necessaries, are the haunts of idlers and dram-drinkers, who there smoke away their lazy hours, and in many instances the pennies which their families need; hence, almost every article of food purchased at those places is tainted more or less with Tobacco poison.

Nearly all the eating-houses, oyster-saloons, and refectories of our cities, and of country-places, are filled with Tobacco-smoke a considerable part of the time. Smoking in the streets of New York is so general, that it is impossible to traverse any of the thoroughfares of the city at any time between sunrise and midnight, without taking the stench of burning Tobacco into the

lungs at every inspiration. The same is true of a majority of our cities and large villages. Steamers, sailboats, ferryboats, railroad-cars, stages, coaches and omnibuses, are almost everywhere heavily charged with rank Tobacco-smoke; and all the depots where passengers exchange seats or sojourn for a few minutes, are generally fetid and suffocative with the all-pervading narcotic.

It is true that "Gentlemen are requested not to smoke in this room;" and "No smoking abaft the wheels," are customary notifications which meet the wayfarer in all directions, and which sufficiently attest the universal offensiveness of the practice; still it is seldom that the traveller can journey far, or remain long at any stopping-place, without finding the odor of burning Tobacco in close proximity to his lungs. In very truth, the whole atmosphere of our cities—glorious Boston excepted—is stifling and pestiferous with Tobacco fumigation; and the country air is far from being clear of it; so that if three-quarters of the people desire health, prefer pure air and sweet breath, and love cleanliness, and wish to avoid all contamination or infection, they are compelled by the remaining one-fourth, who happen to enjoy the low and degrading sensuality, to imbibe the poison from the air.

Quite as filthy, though less annoying to others, is the practice of chewing or snuffing. So general has the habit of chewing Tobacco become in this country—which I believe is in *advance* of all other countries in this particular form of the folly—that all places, public or private, where it is desirable to preserve the external forms of decency, have to be provided with special reservoirs to collect the foul and sickening spittle constantly ejected from the ever-working mouths of the Tobacco-chewers. And in churches, halls, stage-coaches, and other places where spittoons are not furnished, the attendant or passenger is in constant danger of having his clothes besmeared with the vile nuisance.

#### EXPENSE OF TOBACCO-USING.

As long ago as 1839, Great Britain derived a revenue of \$18,000,000 from the duty on Tobacco. The actual loss to the nation was, of course, treble or quadruple that enormous sum—an amount sufficient to have fed, clothed, and educated every one of the starving millions under the government of Queen Victoria; and even sufficient to have extinguished, at no distant day, the immense national debt of the country. A late writer in *Blackwood's Magazine* says:

"Leaving the question of its origin, the reader will not be surprised, when he considers how widely the practice of smoking prevails, that the total product of Tobacco grown on the face of the globe has been calculated by Mr. Crawford to amount to the enormous quantity of two millions of tons. The comparative magnitude of this quantity will strike the reader more forcibly when we state that the whole of the wheat consumed by the inhabit-

ants of Great Britain—estimating it at a quarter a-head, or in round numbers at twenty millions of quarters—weighs only four and one-third millions of tons; so that the Tobacco yearly raised for the gratification of this one form of the narcotic appetite, weighs as much as the wheat consumed by ten millions of Englishmen. And reckoning it at only double the market value of wheat, or two pence and a fraction per pound, it is worth in money as much as all the wheat eaten in Great Britain.”

In Havana, Cuba, it is estimated that \$10,000 worth of cigars are smoked daily. From a computation made upon authentic data, it appears that not less than \$1,000,000 are annually expended on cigars in the city of New York. According to an estimate made by the Rev. Mr. Fowler in 1835, \$10,000,000 were squandered in that year on Tobacco by the people of the United States. Since that time the expenditure has increased nearly fifty per cent.

The Tobacco crop of the United States in 1850 was very nearly 200,000,000 pounds. And if we take into account the waste of land and labor in raising it; the expense attending its manufacture and traffic, with the loss of time occupied in smoking and chewing it, and the consequent idleness and indolence it begets, \$30,000,000 would be a low estimate of the present annual loss to the nation; a sum sufficient to provide every district of our country with a free school, every hamlet with a free church, and every pauper with a free home.

It is well known, too, that fires in country-places, and extensive conflagrations in cities, not unfrequently originate from the practice of smoking cigars in stables, workshops, &c. In a single fire at San Francisco three years ago, caused by carelessness in the use of a cigar, several millions of dollars' worth of property were destroyed; so, that if we add the item of loss by fire, we shall have an additional sum at least equal to that contributed to all the benevolent enterprises of the day.

In 1840, 1,500,000 persons—one-tenth of the entire population of the United States—were engaged in raising and manufacturing Tobacco. The present number so mis-employed cannot be less than 2,000,000; for in a single small city, Richmond, Va., there are about fifty Tobacco manufactories; and the culture of the article has—to the shame of New England farmers be it said—lately extended rapidly in the Northern and Eastern States, and is now constantly increasing, because—to the double disgrace of the people of New England—of the mercenary and inhuman reason, that a crop of Tobacco is more profitable than a crop of grain. Our Christian people find it a better money-making business to raise poison to pamper the vitiated appetites, brutalize the nature, and destroy the lives of their fellow-creatures, than to cultivate food!

Yet we should not charge all the fault of this mammon spirit of a portion of our agricultural population to hardness of heart. Something is due to blindness of mind—to miseducation; for legislators and statesmen, under the prostituted terms of patriotism and political economy, have inculcated the

sentiments which lead to such abuses of the soil. Those who will take the trouble to look over the published addresses delivered at the various agricultural fairs of the present year, will find that, in some of them at least, Tobacco ranks prominently among the great "staples" whose cultivation and sale are to enhance the wealth, and power, and glory, and honor of our beloved country, and to be held very dear among the objects of national industry and governmental protection. Perchance it is with the same patriotic intention of encouraging home industry and domestic manufactures, that some of our railroad companies have lately discussed the propriety of having a set of smoking-cars constructed, and set apart for the especial accommodation of those who delight to revel without intermission in the fumes of Tobacco.

But the farmers ought to be made acquainted with the fact that Tobacco-growing is destined to work their ruin in the end, by destroying the fertility of the land. The writer in *Blackwood*, before quoted, says :

"There are two other circumstances in connection with the history of Tobacco, which, because of their economical and social bearings, are possessed of much interest.

"First : Every smoker must have observed the quantity of ash he has occasion to empty out of his pipe, or the large nozzle he knocks off, from time to time, from the burning end of his cigar. This incombustible part is equal to one-fourth or one-fifth of the whole weight of the dried leaf, and consists of earthy or mineral matter which the Tobacco-plant has drawn from the soil on which it has grown. Every ton, when dried, of the Tobacco-leaf which is gathered, carries off, therefore, from four to five hundred-weight of this mineral matter from the soil. And as the substances of which the mineral matter consists are among those which are at once most necessary to vegetation, and least abundant even in fertile soils, it will readily be understood that the frequent growth and removal of Tobacco from the same field must gradually affect its fertility, and sooner or later exhaust it.

"It has been, and still is, to a great extent, the misfortune of many Tobacco-growing regions, that this simple deduction was unknown and unheeded. The culture had been continued year after year upon virgin soils, till the best and richest were at last wearied and worn out, and patches of deserted wilderness are at length seen where Tobacco plantations formerly extended and flourished. Upon the Atlantic borders of the United States of America, the best-known modern instances of such exhausting culture are to be found. It is one of the triumphs of the chemistry of this century, that it has ascertained what the land loses by such imprudent treatment—what is the cause, therefore, of the barrenness that befalls it, and by what new management its ancient fertility may be again restored."

#### CHEMICAL PROPERTIES OF TOBACCO.

Vauquelin obtained, on subjecting Tobacco to chemical analysis, an *acid*, *volatile principle*, (*nicotiana*), *albumen*, *red matter*, soluble in alcohol and

water, *acetic acid*, *supermalate of lime*, *chlorophylle*, *nitrate of potash* and *chloride of potassium*, sal ammoniac, and water. The expressed juice of the leaves contained in addition, *woody fibre*, *oxalate* and *phosphate of lime*, *oxide of iron*, and *silica*. Manufactured Tobacco contained, in addition to the preceding, *carbonate of ammonia* and *chloride of calcium*.

Tobacco-leaves, submitted to distillation, yield a solid, volatile, acrid, and bitter oil. An empyreumatic oil is also produced by the decomposition of Tobacco. Some authors have supposed this oil to be "the juice of cursed hebenon" alluded to by Shakspeare.

Raub has analyzed the constituents of Tobacco-smoke, and found much *carbonate of ammonia*, *acetate of ammonia*, *nicotianin*, *empyreumatic oil*, *carbonaceous matter*, (soot,) *moisture*, and several gases. The most virulent property of Tobacco is *nicotine*; and Virginian Tobacco is preferred to Havana for the sole reason that it contains a larger per centage of this deadly constituent, and is hence stronger. On this point the writer in *Blackwood* says:

"The chemist explains all the known and well-marked diversities of quality and flavor in the unadulterated leaf, by showing that each recognized variety of Tobacco contains the active ingredients of the leaf in a peculiar form or proportion; and it is interesting to find science in his hands first rendering satisfactory reasons for the decisions of taste. Thus, he has shown that the natural volatile oil does not exist in the green leaf, but is formed during the drying, and hence the reason why the mode of curing affects the strength and quality of the dried leaf. He has also shown that the proportion of the poisonous alkali (*nicotin*) is smallest (2 per cent.) in the best Havana, and largest (7 per cent.) in the Virginian Tobacco, and hence a natural and sound reason for the preference given to the former by the smokers of cigars.

"The active substances or chemical ingredients of Tobacco, or Tobacco-smoke, by which these effects upon the system are produced, are three in number. The *first* is a volatile oil, of which about two grains can be obtained from a pound of leaves, by distilling them with water. This oil or fat 'is solid, has the odor of Tobacco, and a bitter taste. It excites in the tongue and throat a sensation similar to that of Tobacco-smoke; and, when swallowed, gives rise to giddiness, nausea, and an inclination to vomit.' Small as the quantity is, therefore, which is present in the leaf, this substance must be regarded as one of the ingredients upon which the effects of Tobacco depend.

"The *second* is a volatile *alkali*, as it is called by chemists, which is also obtained by a form of distillation. The substance is liquid, has the odor of Tobacco, an acrid, burning taste, and is possessed of narcotic and highly poisonous qualities. In this latter quality it is scarcely inferior to Prussic acid. The proportion of this substance contained in the leaf varies from three to eight per cent., so that he who smokes a hundred grains of Tobacco may draw into his mouth from three to eight grains of one of the most subtle of all known poisons. It will not be doubted, therefore, that some of the effects of Tobacco are to be ascribed to this peculiar substance.

"The *third* is an oil—an empyreumatic oil, it is called—which does not exist ready-formed in the natural leaf, but is produced along with other substances during the burning. This is supposed to be 'the juice of cursed hebenon,' described by Shakspeare as a *distilment*. It is acrid, disagreeable to the taste, narcotic, and so poisonous that a single drop on the tongue of a cat causes immediate convulsions, and in two minutes, death."

Of these three active ingredients contained in Tobacco-smoke, Turkish and Indian pipes, in which the smoke is made to pass slowly through water, arrest a large proportion, and, therefore, convey the air to the mouth in a milder form. The reservoir of the German meerschaum retains the grosser portions of the oils, &c., produced by burning; and the long stem of the Russian pipe has a similar effect. The Dutch and English pipes retain less, while the cigar, especially when smoked to the end, discharges every thing into the mouth of the smoker, and, when he retains the saliva, gives him the benefit of the united action of all the three narcotic substances together. It is not surprising, therefore, that those who have been accustomed to smoke cigars, especially such as are made of strong Tobacco, should find any other pipe both tame and tasteless, except the short black *cutty*, which has lately come into favor again among inveterate smokers.

#### ADULTERATIONS OF TOBACCO.

Acrid, irritating, pungent, and burning, as is the juice of the weed to the undepraved sense, it is often adulterated with additional irritants to excite the senses of taste and smell, which have been half-palsied by its effects. *Common salt*, and frequently *wine*, are added to give greater piquancy to roll or chewing Tobacco. To increase the pungency of snuff, *sal ammoniac* or *common salt* is added. The high-dried snuffs, Scotch, Welsh, and Irish, usually contain *lime*. *Pearlash* is sometimes mixed with snuff to keep it moist. All of these acrid and corrosive admixtures augment the ruinous effects of the articles on the mucous membrane of the mouth and nose.

In relation to the peculiar qualities and flavors of different kinds of Tobacco, the following quotation, from the same source as the foregoing, ought to be perfectly satisfactory to all users of Tobacco:

"In all the properties by which Tobacco is characterized, the produce of different countries and districts is found to exhibit very sensible differences. At least eight or ten species and numerous varieties of the plant are cultivated; and the leaf of each of these, even when they are all grown in the same locality, is found to exhibit sensible peculiarities. To these, climate and soil adds each its special effects; while the periods of growth at which the leaves are gathered, and the way in which they are dried or cured, exercise a well-known influence on the quality of the crop. To these causes of diversity is owing, for the most part, the unlike estimation in which Vir-

ginian, Cuban, Brazilian, Peruvian, East Indian, Persian, and Turkish Tobaccos are held in the market.

"As to the lesser niceties of flavor, these probably depend upon other odoriferous ingredients not so active in their nature, nor so essential to the leaf as those already mentioned. The leaves of plants in this respect are easily affected by a variety of circumstances, and especially by the nature of the soil they grow in, and of the manure applied to them. Even to the grosser senses of us Europeans, it is known, for example, that pig's dung carries its *gout* into the Tobacco raised by its means. But the more refined organs of the Druses and Maronites of Mount Lebanon readily recognize, by the flavor of their Tobacco, the kind of manure employed in its cultivation, and esteem above all others that which has been aided in its growth by the droppings of the goat.

"But in countries where high duties upon Tobacco hold out a temptation to fraud, artificial flavors are given by various forms of adulteration. 'Saccharine matter, (molasses, sugar, honey, &c.,) which is the principal adulterating ingredient, is said to be used both for the purpose of adding to the weight of the Tobacco, and of rendering it more agreeable. Vegetable leaves, (as those of rhubarb and the beech,) mosses, bran, the sproutings of malt, beet-root dregs, licorice, terra-japonica, resin, yellow ochre, fullers' earth, sand, salt-petre, common salt, sal-ammoniac'—such is a list of the substances which have been detected in adulterated Tobacco. How many more may be in daily use for the purpose, who can tell? Is it surprising, therefore, that we should meet with manufactured Tobacco possessing a thousand different flavors for which the chemistry of the natural leaf can in no way account?"

#### PHYSIOLOGICAL EFFECTS OF TOBACCO.

In small doses, Tobacco causes heat or burning in the throat, a sensation of warmth in the stomach, followed by nausea and giddiness. In *large doses*, it produces retching, vomiting, and purging, and a most distressing sinking feeling at the pit of the stomach, followed by languor, relaxation of the muscular system, trembling of limbs, extreme anxiety, and great tendency to faint; vision is obscured, the ideas are confused, the pulse is small and weak, the respiration laborious, the surface cold and clammy, or bathed in a cold sweat, and sometimes convulsions occur. In *very large doses*, all of these symptoms are manifested with more violence, and are followed by paralysis and stupor, terminating in death.

These general effects are manifested very similarly, whether the article is chewed, smoked, or swallowed. In the form of snuff, *small portions* occasion an increased flow of mucus, sneezing, and an acrid and burning sensation in the throat. In *large portions*, nausea, giddiness, great prostration of strength, and lethargy or apoplexy result.

The ordinary physiological effects of the habitual use of Tobacco, as stated by Dr. Coles, are "weakness, pain, and sinking at the stomach; dimness of sight; dizziness and pain in the head; paleness and sallowness of the countenance; feebleness of the voluntary muscles; tremulousness of the hands; weakness and hoarseness of the voice; disturbed sleep by startings and a sense of suffocation; nightmare; epileptic or convulsion fits; confusion of mind; peevish and irritable temper; instability and laxness of purpose; depression of spirits; melancholy and despondency; partial and sometimes permanent insanity."

Perhaps in no way does the narcotic manifest its anti-vital, nerve-destroying potency, more conspicuously than in its effects on the senses of hearing and seeing. All Tobacco-users become prematurely dull of hearing and dim of vision; and generally in proportion to the extent of the indulgence. Many persons who chew or smoke excessively are afflicted with troublesome deafness or defective sight at middle age. All the other senses, tasting, smelling, and even feeling, are always greatly deteriorated in functional integrity.

When Tobacco is used habitually in any form, all of its most violent and striking effects are gradually diminished in degree, until, finally, they cease to be apparent; and when the organic instincts are thoroughly subdued by its influence, its impression becomes pleasurable; and ultimately, as the depravity of sense increases, a singular satisfaction, a strange exhilaration, a wonderful charm, a mysterious spell, an absolute fascination, pervades the whole domain of sense, and binds the organic sensibilities, and with them the moral emotions and intellectual powers, in a servitude which, in most cases, grows stronger and more irrevocable during the remainder of life, and terminates only at death.

#### PATHOLOGICAL EFFECTS OF TOBACCO.

Dyspepsia in all its protean forms is the most direct and generally recognized morbid condition resulting from the employment of Tobacco as a luxury. General vital exhaustion, or nervous debility, and premature death, are the certain and inevitable consequences of its ordinary use. Bronchitis, pulmonary consumption, epilepsy, palsy, hypochondriasis, dropsy, cancer, and insanity, are among the specific diseases which physicians very frequently trace to Tobacco as the only or principal cause. Malignant tumors of the mouth and lips are often produced by smoking. Those who smoke an old dirty pipe, crusted over with the black residuum of the oil of Tobacco are peculiarly liable to foul diseases of the lips and mucous membrane of the mouth. Horrid deformities and fetid fungous excrescences have been many times occasioned by poisoning an accidental crack on the lip or the corner of the mouth, with Tobacco-smoke or juice, of which I have known several melancholy examples. No doubt the modern invention of ivory or glass

tubes, to prevent the cigar from coming in contact with the mouth, will enable the Tobacco-sot to destroy his whole nervous system without marring his face.

Snuffing more especially predisposes to palsy, apoplexy, epilepsy, and insanity. An eminent professor in one of the New England medical colleges, not many years ago, died in a mad-house, his madness being the consequence of snuffing. Habitual snuffing always produces a disagreeable alteration in the tone of the voice, and induces a variety of filthy local affections of the lining membrane of the nasal cavities.

The mischievous potency of Tobacco has been proved by a variety of experiments on small animals. Drs. Mussey, Brodie, and Franklin, testify that cats and rabbits are killed in a few minutes by one or two drops of the oil of Tobacco, applied to the tongue.

Many an infant has been killed outright in its cradle, by the Tobacco-smoke with which a thoughtless father filled an unventilated room. Many and many a time has the doctor been summoned in haste to a child, taken suddenly and alarmingly ill, with spasms, convulsions, *worm fits*, choking, strangulation, or "strange spells," produced by no other cause than Tobacco-smoke in the room; a cause too often unsuspected by both parents and physicians. The strong, rank, fetid narcotic breath of a habitual Tobacco-user is enough to almost strangle and quite sicken the new-born infant which sleeps in the same bed. Who but the All-seeing knows how many infants are murdered soon after they are born in this way; or, if not directly killed, rendered sickly, puny, nervous and irritable in body, and peevish, dull, and stupid in mind, by being poisoned with a Tobacco-atmosphere during the first days of their existence?

Dr. L. B. Coles, whose attention has been devoted to this subject for almost a lifetime, says truthfully: "Many a Tobacco-user's wife, by constantly sleeping with him, has suffered ill-health. No Tobacco-user is fit for a bed-companion. He is giving forth pestilential vapors from all the pores of his skin. He is an embodiment of perpetual miasm. The immediate atmosphere surrounding him is inevitably impregnated and polluted with the effluvia which constantly emanates from his whole surface. Put a chewer or smoker of Tobacco into a vapor-bath, with no Tobacco in the room, and in a short time the whole apartment will be strongly scented with the effluvia of Tobacco which has emanated from his body."

#### MEDICINAL EMPLOYMENT OF TOBACCO.

In medical language, Tobacco is *nervine, narcotic, stimulant, antispasmodic or relaxant, sialagogue, diaphoretic, diuretic, emetic, and purgative*. These several operative effects evince the general commotion which takes place throughout the domain of life, on the introduction of so powerful a drug; a

commotion whose object is to expel it, as a most dangerous enemy, as rapidly as possible through all the outlets of the body.

In very small doses, its nervine and stimulant effects only are apparent. In *larger doses*, these effects are followed by narcotic manifestations. In *still larger doses*, its relaxing, sialagogue, diaphoretic and diuretic effects become prominent. In *very large doses*, its emetic and purgative effects are experienced. This scale of operative effects, exactly graduated and intensified according to the quantity of the poison taken into the system, shows how active is the vital resistance to the drug, and that the attempt to get rid of it is manifested with an energy precisely proportioned to the danger of its presence.

In medical practice, an over-dose has repeatedly produced death, or rapidly hastened the fatal termination when administered in the last stages of colic. The topical application of a Tobacco cataplasm to an abraded surface has ultimated in death from absorption of the poison. Even the moistened leaves placed upon the stomach externally, have caused the death of the patient. Children have been sacrificed—unintentionally, of course—by a liniment of Tobacco rubbed over the scalp; and one case is recorded wherein a father killed his child by applying Tobacco-spittle to an eruption on the head. All of these casualties, to be sure, are to be imputed to over-dosing, or injudicious administration; but they evince the deadly nature of the drug.

It has been argued, even by a medical writer, that the habitual use of Tobacco is a preventive of bronchitis. I have seen too many cases of the worst forms of this disease in confirmed Tobacco-users to credit such closet theory. A similarly superficial observation or reasoning process has induced some medical men to believe that the use of ardent spirits, or the ague-and-fever, was a preventive of consumption. Although Tobacco-users, spirit-drinkers, and ague-and-fever subjects do all frequently have bronchitis and consumption, it is nevertheless true that these supposed preventives do sometimes obviate one disease by killing the patient with another. If a man uses Tobacco enough to waste all his vitality in ten or twenty years, he may die dyspeptic, and so escape bronchitis; as the man who produces an active form of alcoholic disease may die of nervous exhaustion, and escape every other; or the consumptive who gets the ague-and-fever may die of diseased liver, instead of ulcerated lungs. It is very true that whilst the system is possessed by one disease, or occupied with one poison, it is the less liable to all other diseases and every other poison, although it is not less liable to death. This idea of keeping off diseases by preoccupying the system with a poison or a specific morbid condition, is both nonsensically unphilosophical and ridiculously absurd. Health—full, perfect, vigorous functional integrity, in all the physiological and mental powers—is the only conservative condition that science knows or nature owns.

## EFFECTS OF TOBACCO-USING ON POSTERITY.

The law of organic transmission is now very generally understood. That the offspring must necessarily partake, to a greater or less extent, of the infirmities, malformations, and functional imperfections of the parent, is a proposition which all human experience affirms, and to which all intelligent minds will assent. The habitual Tobacco-user, if he propagate his kind, will inevitably curse his offspring with an organization more or less disordered, and a class of vital functions more or less unbalanced. That parent whose blood and secretions are saturated with Tobacco, and whose brain and nervous system are constantly semi-narcotized by its influence, must transmit to the child so unfortunate as to be born unto him, the elements of a dis-tempered body and an erratic mind ; a deranged condition of organic atoms, which invariably elevates the animalism of the future being, at the expense of the moral and intellectual nature. Against this truth let it not be urged that Tobacco-users sometimes have comparatively bright and healthy children. So do drunkards. But are they what they could have been, and would have been, had the parent been exempt from all contaminating vices? If there is any one act of criminality which nature stamps with especial abhorrence, and punishes with more terrible and relentless severity than all others, it is that of the parent, who, by marring his own organization and vitiating his own functions, bequeaths irremediable physical decrepitude and moral degradation, for the inheritance of his children.

## RATIONALE OF ITS MODUS OPERANDI.

To the pure and undepraved sense, Tobacco is disgusting in every form. This is evinced by the deathly, horrid, sinking feeling of sickness and nausea almost every person has experienced on his attempt to acquire the "elegant accomplishment" of smoking and chewing. Those disturbances in the bodily functions which we denominate its operative or medicinal effects, are the evidences of the resistance of the vital powers to its deadly influences. When a very small quantity is taken, it is passed off through the general circulation with as little disturbance to the vital machinery as possible ; when a larger quantity is taken into the system, its greater danger is felt or appreciated by the organic sensibilities, which, true to the primary instinct and first law, self-preservation, increase the action of the excretory organs—the skin and kidneys—and call also upon the assistance of the secernent organs, as the salivary glands, to expel it ; and we then perceive those effects called sialagogue, diaphoretic, and diuretic ; and when very large quantities, which immediately endanger life, are taken, a powerful effort is made to eject it at once, and then vomiting and purging occur.

But these same organic instincts, when Tobacco is forced upon them for

some time, lose, by degrees, their repugnance to its impressions, and, in the end, actually crave it with a vehemence of desire equal or exceeding in intensity their original abhorrence. How is this? Simply because those instincts are depraved—perverted. We often hear from the sacred desk a moral simile which is pertinent to illustrate this point. The good man, the Christian, it is said, loves light or truth, and hates darkness or error. Reverse his nature, pervert his affections, and he will love the wrong and hate the right. The organic instincts *feel*, but they do not reason. They resist every morbid impression to a certain extent; and yet adapt themselves to that impression; otherwise they could not long exist. Were each subsequent morbid impression equal to the first, they would soon be destroyed. This law of conformity enables the organic economy to hold out longer, and protract indefinitely its existence under very pernicious influences, by gradually ceasing its resistant efforts when the morbid cause proves incapable of removal, or is constantly reappplied. Thus the stomach and brain of a person long accustomed to opium, alcohol, or Tobacco, can bear a dose with but slight inconvenience, or even with pleasurable sensations, which would prove fatal to one entirely unaccustomed to its impression. But because the organism becomes so torpified at length that it can endure a large amount of Tobacco-poison and live, this fact does not prove that Tobacco finally becomes innocuous; nor does the fact that the organic instincts now love the poison with an insatiate and never-to-be-satisfied craving, prove that the article has become healthful. The Tobacco is still the same in its relation to vitality—anti-vital; the change is in the man, not in the weed. The conscience of a human being does not *think*, but it *feels*. When a man first does an act which he knows or feels to be wrong, the conscience revolts against the deed; if he contemplates a repetition of it, conscience resists the intent, and raises, perhaps, a violent turmoil within the domain of the moral sense; but if he repeat and reiterate the act, conscience upbraids him less and less, and at length ceases to reprove him at all; and finally coöperates with the vicious intent, and, peradventure, is not satisfied without its continual perpetration. The wrong act has not become right, but the conscience has become perverted. It now craves the wrong with the same intensity that it once asserted the right. Thus it is that all the human instincts, bodily and mental, placed as sentinels on the outposts of life by the beneficent Creator, may become, as it were, “scared as with a hot iron.”

#### NEGATIVE EFFECTS OF TOBACCO.

The symptoms which occur in a person long addicted to Tobacco-using, whenever deprived of the article, evince its deteriorating influence on the organism, even more strikingly than do its positive effects. In an hour or two the mouth begins to feel husky, parched, and uneasy; a general irritability of the whole nervous system succeeds; the head now feels confused and heavy; objects appear dim and confused, and sounds are either dull and indistinct, or

painfully annoying. In a few hours more, the whole muscular system is tremulous and relaxed, or rigidly spasmodic, while an indescribable sensation of restlessness, lifelessness, and anxiety agonizes the whole frame. Not unfrequently, the miserable sufferer staggers like an inebriate, or walks with a stiffness and inflexibility painful to himself and strange to the spectator. A violent headache next comes on, or an intolerable oppression weighs down every sense. The mind is sad, gloomy, and half delirious, and thoughts of suicide are no strange visitors. The eyes appear dull and sunken, the face has a waxen and expressionless aspect, and the whole countenance is ghastly and horror-stricken. In two or three instances, I have known absolute *delirium tremens* to occur. On retiring to rest, the sufferer finds strange phantoms and spectres dire, instead of sleep, hovering around the bed. The bed itself seems to toss and tumble like the cross waves of a turbulent sea. Ghosts and goblins, spooks and apparitions, haunt his brain; and snakes and serpents of all shapes, sizes, colors, forms, and lengths dance attendance around the room, each in dumb-show chanting the praises of Tobacco, and holding out a large armful or mouthful to mock the wretched sufferer, whose miseries are aggravated by the sight of the accustomed luxury, which he is compelled to behold, but not permitted to taste. All through the long night do these fiends of a disordered nervous system play their fantastic tricks to his torment; and as the morning dawns, the wretched victim of a miserable habit feels utterly prostrated; and although he may still be determined to persevere in his abstinence, and suffer through, he finds it almost impossible to think of any thing but Tobacco; while every perverted, enraged, and rabid instinct is crying out, "A quid! a quid! my kingdom for a quid!" I have known persons endure two or three nights of such torment before the demons of a Tobacco-poisoned brain would take their final departure, and leave the enslaved wretch once again a freeman. But depart they did, and depart they always will, sooner or later, never to return so long as the emancipated individual obeys the mandate of God and nature in relation to the unclean thing, which reads, "Taste not, touch not, handle not."

#### EFFECTS OF TOBACCO ON THE INTELLECT.

The maxim, "A sound mind in a sound body," is founded on the principle that perfect physiological integrity is essential to the highest condition of intellectual vigor. That the mental faculties are variously influenced by the functional operations of the material organism, is a truism universally acknowledged. All persons are aware that very slight bodily diseases often produce great intellectual inability. It is also very clear that the irritants or poisons which operate particularly upon the brain and nervous system, as do all narcotics, nervines, and stimulants, are especially derogatory to the exercise of the reasoning and judging powers. Tobacco combines in itself powerful narcotic, nervine, and stimulating qualities. Under its influence the brain

must be either held fast, as it were, constantly narcotized, or in a state of incessant fluctuation between excitement and collapse ; in either case, to some extent, unfitted for duty. While the brain is preternaturally excited, stimulated, or exhilarated, its operations will be speculative, visionary, fantastic, distorted ; it is not in a condition to perceive facts with precision, nor to trace the relations of cause and effect with exactitude. And on the other hand, when the narcotic influence passes off, depression, moody melancholy, gloomy forebodings, and mental lassitude, totally disqualify the faculties of perception and reflection from making any vigorous or well-directed effort. But the Tobacco-user may keep his nervous system constantly in about the same state of excitement, by taking quids of a uniform size, or smoking cigars of uniform length and strength, at regular intervals. In this case, revery instead of reason will be his general mental condition ; and if he succeeds in maintaining credit for respectable talent, he will assuredly prematurely exhaust his mental capacity, and the world, if not himself, may be the loser.

Let us suppose a circumstance which is far from being merely problematical. A preacher of the gospel, or a lecturer on natural philosophy, himself addicted to the luxury of Tobacco, is to address an audience, each member of which is addicted to the same habit. The speaker and all the hearers are compelled, out of respect to the forms of decency, to spit out the Tobacco quid, or throw away the remnant of the cigar as they enter the church or hall. Before the speaker has concluded his discourse, he begins to feel the hankering for his narcotic ; and the feeling of uneasiness increases until he gets back again to his quid or cigar. It is no unreasonable nor uncharitable inference that the last half of his sermon or lecture is not equal to the first in matter, unless it is written, and even then it will be deficient in manner and spirit. Before his peroration is made, he may be thinking more about Tobacco than gospel or philosophy. And the audience will be in the same predicament as the speaker. They will listen patiently and attentively for the first half hour, and get an excellent impression from the first part of the discourse ; but the Tobacco-fever comes on and every moment increases ; they get restless, fidgety, impatient, and inattentive ; the thought of Tobacco dispossesses the brain of every other ; the speaker grows every instant more and more dull, tedious, insipid, stale, flat, and unprofitable ; the time seems unendurably long, and all the wonder is that the exercises hold on so wearily. At length a joyful moment arrives. The audience is dismissed. The "amen" has given better satisfaction than all the rest of the talk. The speaker and hearers rush into the open air ; out come the Tobacco and snuff-boxes, and cigars, and soon all is forgotten of the exercises, save a dull recollection of the misery of the last half hour.

## EFFECT OF TOBACCO ON THE MORALS.

No truth in philosophy is better established than the fact that bodily purity and true morality hold intimate and reciprocal relations. Try if you can, reader, to entertain the idea of a gluttonous eater, a wine-bibber, or a Tobacco-user, in connection with holiness of heart. There is something unnatural, revolting, repulsive, in the association. Just as the bodily appetences and the outward senses are depraved, does the inner man, the moral nature, become gross. The pure spirit will not, cannot dwell in a filthy tenement. There is a natural correspondence between material and spiritual things, so that the quality of one denotes the character of the other. Look back some eighteen centuries to the founders and teachers of the purest code ever promulgated on earth. Were not the preachers of that dispensation exemplary in all personal habits? Suppose some blasphemous tongue should assert that the apostles, who in the days of our Saviour's presence went about teaching the way of life, were addicted to the practice of smoking and chewing some nauseous weed as a means of sensuous enjoyment, would not the whole Christian world be shocked at the foul aspersion? A professor of religion and slave of Tobacco may mean well, but a hallucination pervades his moral nature exactly proportioned to the amount of Tobacco he consumes. He may have an intellectual consciousness of right and wrong, but the moral sense is blunted; he does not *feel* duty if he sees it; nor does he *feel* truth as he perceives it. He may acknowledge, in all candor and sincerity, that Tobacco-using is a pernicious custom, morally wrong; yet he may find an impulse within, a law of his members artificially produced, prompting him with insatiate cravings to continue the practice, and this artificial law may be stronger than his natural reason and conscience combined. Is not Tobacco-using a palpable violation of one of God's laws implanted in our organization? Is not an infraction of any one of God's laws a transgression and a sin? And if a man habitually lives in the violation of one of God's laws, will not the transition be easy and natural to a violation of other laws? And lastly, how can any man stand up as a moral teacher, who in his own conduct commends to his fellow-creatures a life of continual transgression against the laws of his being?

## THE EXAMPLE OF TOBACCO-USING.

Example is, after all, stronger than precept. How can any man preach reform in relation to any one besetting vice, whilst he is himself habitually in the practice of another? How can the temperance reformer plead with the inebriate to abandon the poisonous and ruinous alcoholic beverages, whilst his own mouth is rank and filthy with the equally poisonous and still more disgusting Tobacco? How can the Christian minister stand up before the

people and from the sacred desk proclaim the beauty of holiness, whilst he is known to be the abject slave of a disgusting and ungentlemanly habit? How can he lead sinners to forsake the world, the flesh, and the Devil, when he is not himself an example of common decency? How can he exhort and pray in the conference-meeting and at the family altar, when his breath is offensive to all whom he approaches?

It has been said, with great force and truth, that the respectable dealers in and moderate drinkers of intoxicating beverages were the "Devil's decoys," by which weak-minded persons were led into habits of confirmed drunkenness. The gutter-drunkard serves as a frightful example to warn others from the error of his ways; but the man who can use intoxicating liquors and keep up a respectable exterior, influences others to imitate his drinking practices, some of whom are morally certain to improve upon it so far as to find their way to drunkards' graves. The same principle applies with the same force to Tobacco-using. The ragged, bloat-faced grog-shop loafer, who labors to defile himself at a black, dirty, broken pipe, would never mislead a single descendant of Adam into the habit of smoking Tobacco. But the outward gentleman; the man of acknowledged respectability; the person of rank, standing, and influence in society; the individual who makes a comely appearance in the streets, and is clad in clean garments, and who puffs with grace and dignity an "elegant Principe" or "delicious Havana," will very naturally awaken a spirit of emulation in the thoughtless multitude, who, by the way, happen to be the largest class in community.

But where—in what position or relation of life—do examples of evil or of good tell with the greatest power on the destinies of mankind? In the Christian pulpit! And shall the man chosen to officiate there defile himself also with this vile thing? Forbid it, Heaven! Shall he who is set apart to teach the people spiritual things, lead them into a practice which paralyzes their moral sensibilities, and obtunds all their perceptions of moral truth?

#### ASSOCIATION OF TOBACCO-USING WITH INTEMPERANCE.

All virtues are congenial, and so are all vices, whether of mind or body. If the character of a man is to be judged by the company he keeps, I know not why the nature of a habit may not be determined by its associate habits. By this rule of judgment, where will the Tobacco-habit be found? Rum is everywhere its most intimate ally. The use of Tobacco creates an appetite for rum; and it has often been noticed that Tobacco-users who have reformed from drunkenness are peculiarly liable to relapse into their former habits of intemperance. A reformed drunkard who uses Tobacco habitually is never secure in his reformation; nor so long as he lives, moves, and acts under the constant influence of a narcotic excitement of any kind. A slight reverse of fortune, casualty, domestic affliction, or bodily disturbance, produces an easy

transition from the Tobacco narcotic stimulant to the liquor narcotic stimulant. Tobacco also leads to gross eating as well as drinking habits. The senses of taste and smell are so palsied by it, that nothing but strong, complicated, high-seasoned, and hence unhealthful dishes are relished ; and the thirst produced by Tobacco is of a nature which can seldom or never be satisfied with pure water. The torpid and palsied mouth and throat incessantly crave something strong and pungent to rouse them to a state of sensibility.

Walk through any of the thoroughfares of New York on the Lord's day, when the church-bells are summoning the people to their devotions ; the sidewalk is thronged with people hurrying to and fro ; all is quiet, save the tramp of pedestrians and the rattling of carriage-wheels ; business is suspended ; the work-shops are still ; the stores are closed ; all traffic is relinquished for the day, for it is the Sabbath. But stop ! The shops are not *all* still ; nor is *all* traffic relinquished, nor are the stores *all* closed ; nor is *all* business suspended. There are two exceptions. Throughout all the bounds of the great city, in all the streets and lanes, all along the main thoroughfares, and in all the by-alleys, the *grog-shops* and *Tobacco-shops* are busy. *It is their great business day of the week !*

#### BREAKING OFF THE HABIT.

It is in vain that we detail the various ways, and indicate the precise *modus operandi* in which the Tobacco-poison ravages the domain of individual life, and vitiates society, unless we can prescribe a remedy, at least so far as the Tobacco-sot of the risen generation is concerned. Indeed, most of those who are in the habitual use of the thing know by their own experience that it is attainting their life's blood, and paralyzing their vitality at the very core ; and their anxious cry is, "What can deliver us from its deathful grasp ?"

This is a serious question ; and if we are to draw a precedent from the ill-success of the majority who have attempted self-reformation in this respect, there is very little ground for encouragement. No pen can exaggerate the misery of Tobacco-users, when deprived, only for a few hours, of their customary indulgence, be it snuff, or cigar, or quid. And from much observation, I am inclined to regard the habit of using Tobacco in any form as much more difficult to be relinquished than that of liquor-drinking. Not many years ago, about a dozen persons in this city, who had become pledged abstainers from all that intoxicates in the shape of alcoholic drink, signed also an anti-Tobacco pledge. Some of them had been reclaimed from excessive dram-drinking, and one or two had been habitual drinkers, in the gutter sense. Every one of them has to this day religiously kept his faith against the seductions of alcoholic beverages ; but all, with one exception, soon relapsed into the former habit of Tobacco-using.

I am of opinion, however, that the difficulty is not so great intrinsically as

is generally supposed. The failures to become emancipated from so deplorable and degrading a slavery are, to a great extent, attributable to a want of proper hygienic management. It does indeed require, in all cases, a good degree of moral firmness; but if the resolve is made on principle, and not as a mere experiment, it will generally succeed. Those who conclude to abandon the habit, provided they do not feel *too* bad on the trial, will pretty certainly feel bad enough to relapse into it again. But let the man resume for the occasion his whole manhood, and, following the memorable example of one who resolved to be free and independent in relation to another form of slavery, declare, "Live or die, survive or perish, I am for no more Tobacco," and he will almost surely triumph. The struggle may be terrible, but it will be brief. He may feel like death, but he will not die. In a week or two the severest ordeal may be passed; and in a month or two the morbid love may be changed to a healthful hate. The sufferer must determine to be free indeed, with full and unreserved purpose of soul; nor must he seek substitutes of any kind. He wants no camomile flowers, nor slippery elm, nor spruce gum, nor other *chewable* to keep up the mechanical part of the habit, and constantly remind the muscles about the face that a something is lacking. Let the unclean thing be at once discarded; and then let the masticatory organs rest, save when employed on appropriate food. But the degree of suffering may be greatly mitigated, and its period materially abbreviated by a suitable regimen. Like *likes* like; and whilst the whole system is saturated all through with Tobacco, and until the last particle is deterged from the blood, the attainted sense may yearn toward the attainting cause; hence the patient should go through the general processes of purification as rapidly as possible. He should, first of all, eat only the most bland and simple food. The least oppression or overloading of the stomach, whether from excessive quantity or gross quality of food, will aggravate all the symptoms of bodily depression and mental distraction. He should also take a full tepid or moderately cool bath, morning and evening. If, at any time, the headache is intense, putting the feet for a few minutes in warm water, with the application of a little cold water to the head, will generally relieve at once. In extreme cases, a warm bath may be taken at bedtime with advantage. A tumbler or two of warm water will also sometimes assuage the suffering like a charm, especially when connected, as is often the case, with weak stomach, indigestion, nervous debility, &c. If the patient will confine himself for two or three weeks to brown bread, or hard crackers, with good baked or boiled apples, *ad libitum*, and as many rich, mealy potatoes, baked, boiled, or roasted, as the appetite craves at the regular meal-hours, the processes of depuration and renovation—and revolution as far as the depraved appetency is concerned—will be much more speedy and complete. In this way the veriest Tobacco-sot in existence may in a little time, become one of the best haters of the weed in the wide world.

I have managed many persons in a similar manner; and have found them,

after a few weeks of water-cure training, not only exempt from all desire to pollute their mouths or noses in this ridiculous fashion, but actually disgusted with the smell, taste, and even thought of Tobacco.

#### CONCLUSION.

The true philosophy of reform, in the broadest acceptation of the term, must be based on physiological science. "Be ye perfect, even as your Father in heaven is perfect," applies with the same force to man's bodily nature as to his mental or moral. We cannot rationally contemplate improvement in one department of his three-fold existence, and neglect the other two. The whole man should be developed harmoniously; and we should be as careful to learn and obey the physiological as the moral and intellectual laws of our being: for all are God's laws; and he will not abrogate nor suspend them because of our ignorance or our perversity. The great-grand-parent vices in the way of the world's reformation, are alcohol and Tobacco. They waste human energies and destroy human talents equal to "war, pestilence, and famine," which, in fact, they engender and beget.

Let us try all the influences of precept and example we are privileged to wield, in assisting to rid the earth of these evils, and then, whatever else our hands find to do in the field of reform, do with all our might.