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1859



THE  
USE AND ABUSE  
OF  
TOBACCO.

BY  
✓  
JOHN LIZARS.

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FROM THE  
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## TOBACCO.

SNUFFING, SMOKING, AND CHEWING, ARE BAD HABITS, AND WE  
ADVISE ANY GENTLEMAN WHO IS NOT HOPELESSLY ABANDONED  
TO EITHER, TO GIVE IT UP. — *Medical Circular.*

NOTICE  
TO  
THE EIGHTH EDITION.

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IN this Eighth Edition I have made some alterations, chiefly as regards arrangement; but I find, that less or more of a desultory character must necessarily attach itself to a brochure, intended merely as a vehicle of Practical Observations. The reader will see that I have found myself called upon to make some allusion to the recent attempts at that fatal operation—excision of the tongue.

The object of the Author will be attained, if his Observations have any appreciable tendency in arresting the progress of excessive Smoking, by drawing the attention of the Public to so important a subject. It is difficult to estimate, either the pernicious consequences produced by habitual Smoking, or the number of its victims among all classes, old and young. The enormous consumption of Tobacco can be ascertained from

yearly returns made by the Government Custom-House; but its physical, moral, and mental deteriorations, admit of no such tangible analysis. These, although certain, are slow and imperceptible in their development, and it is therefore impossible to ascertain the extent of the injury which the poisonous weed inflicts upon the public health, or the alteration it must necessarily effect upon the character of its inhabitants. The consumption of Tobacco is stated to be, in 1853, 29,737,561 pounds, thus showing an allowance of considerably more than a pound, on an average, to every man, woman, and child, in the United Kingdom of Great Britain and Ireland. The prevalence of Smoking has been of late greatly on the increase, and the use of the narcotic commences with the young from mere childhood. Such a habit cannot be more lamented than reprobated. The injury done to the constitution of the young may not immediately appear, but cannot fail ultimately to become a great national calamity.

JOHN LIZARS.

EDINBURGH,  
SOUTH CHARLOTTE STREET, 1859.

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THE  
USE AND ABUSE  
OF  
TOBACCO.

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CHAPTER I.

GENERAL CHARACTERISTICS OF TOBACCO.

1. It is generally agreed that the use of tobacco in Europe, as a means of inebriation, originated in the introduction of the leaves of the plant into Spain from America. There is every reason to suppose that the plant previously existed in Asia, if not from the earliest times, though we have no very reliable authority for its having been used, at least to any great extent, for any of the purposes to which we have devoted it. I am aware that various old authors report, that the ancients of the extreme East were acquainted with the burning of vegetable substances as a means of inhaling narcotic fumes; and, indeed, when we consider their love of incenses, both as a luxury and an element of their religious cult, we need not be surprised at this; but we have no evidence that the smoking of tobacco was known in the Old World before the introduction of the plant from the New. It was in 1492 that Columbus first be-

held, at Cuba, the custom of smoking cigars; but it was not until some years afterwards that a Spanish monk recognized the plant in a province of St. Domingo, called Tabaca — a much more likely foundation for the name of the herb than that adopted by some, who assert that it originated in tabac, a tube used by the natives for smoking. That there was no particular aptitude in the European taste for the use of this herb, seems to me evident from the very slow progress which ensued even of the knowledge of its qualities. So late as 1560, when Jean Nicot, the French ambassador at the court of Portugal, reported of it to his sovereign, scarcely any thing was known of the foreign vegetable, and in place of the men who accompanied Columbus having taken to any imitation of the Cuban natives when they returned to Europe, it would rather seem that the adoption of the pipe is attributable to an Englishman, Raphelengi, who, having accustomed himself to it in Virginia, introduced the practice into England. Sir Walter Raleigh does not seem to have used the pipe until after the return of Sir Francis Drake in 1586, so that nearly a hundred years expired before even the roots of the habit were fixed in the English people. Nor, probably, would the practice after this have spread so rapidly as it did, if it had not been for the persecution to which it was almost immediately exposed. If it is true, as has been said, that a few opposing volumes will fix the roots of a heresy, we need scarcely wonder at the triumph of tobacco, against the use of which more than a hundred fulminating volumes issued from the press within a few years.

2. These observations suggest a reference to the question, how far tobacco was intended for the use of man? The practice of the Cuban savages is seized by one party as a proof of a final cause, insomuch as savages are supposed to follow the first dictates of nature; and then comes the other party, who point to the tardy adoption of nature's gift by a civilized people as a clear proof that the weed was not intended for the uses to which it is applied. I believe that it is utterly vain to discuss questions of this kind. We have no elements for a proper judgment. Perhaps, for aught we know, the American savages were some thousands of years in coming to the habit—at least we have no reason to suppose that it could be a very primitive adoption. Whether, indeed, man's custom, in most cases, is a proof of itself of nature's intention, must always be a puzzle; but as we know that many very bad things are greatly more natural to human beings than we would wish them to be, we have just as good a right to say for those to whom good tendencies are delightful from the beginning, that nature intended they should do their best to eradicate what is hurtful, and reclaim their fellow-creatures from the indulgences of vice. The true practical question must in short always be, what is beneficial and what is hurtful, according to the results of our experience.

3. The botany of our subject presents us with seven or eight different species of the plant, all affecting, more or less, the warm latitudes. Virginia seems, of all regions, the best suited to its culture, and yields in great quantity the common or Virginian tobacco (*Nicotiana*

*tabacum*). A more hardy kind (*N. rustica*,) may be cultivated in such latitudes as that of Scotland. This is the species which has been found in Europe, Asia, and Africa; and were it not for the restriction imposed by statute, we would produce it on rich soils in greater quantities than would be convenient for our treasury, or beneficial to our people. I need hardly say here, that the question of intention, on the part of nature, is not much helped by the *habitat* of the production used; otherwise we might expect to find the northern races less addicted to the use of this tropical weed than those of the warmer regions. We know that probably the contrary is the truth; but all our efforts to draw any conclusion for or against the adaptation of a race to a production of a climate, are rendered futile by the teachings, not more of our religion, than of naturalists, who insist for a central point of origin for all races, and a constitution suited to all climates. The safest position to hold, is that for which I insist, that a bad habit may be formed in any latitude, and supported by any number of arguments, where the wish still holds its mysterious power over the conclusions of what we call reason.

4. As regards the composition of tobacco, we have endless experiments in that nearly new science, Organic Chemistry, which seems to try the patience of industry itself. There are some nine or ten different substances which go to the formation of a tobacco leaf, and these seem to change in their proportions according to the condition of the plant. Setting aside starch, various acids and salts, we come to what may be termed the

essential element or principle called Nicotina, with the formula  $C^{20}H^{14}N^2$ . These proportions of carbon, hydrogen, and azote, really tell to the analyst nothing from which he could predicate any thing certain as to the character of the compound. In this respect, all the formulæ of organic substances are nearly under the same mystery; a small difference in the proportions producing the greatest difference in the combined results. But we can be under no mistake as to the character of the element which is called Nicotina — a colorless liquid alkaloid, with an acrid, burning taste. It is one of the most intense of all poisons, approaching in its activity the strongest preparation of prussic acid.

5. The other important element procured from the analysis of tobacco, is an oil called nicotianin, supposed to be “the juice of cursed hebanon” referred to in Hamlet; this is the poet’s formula; the chemist’s is  $C^{11}H^{10}O^2$ ; but if the latter did not know from actual experience the deadly power of the substance, he would have a small chance of arriving at it by any analogy between formulæ. As this oily substance is also a very intense poison, differing essentially from the alkaloid, and indeed it is supposed capable of acting on different vital organs, we have thus in tobacco two poisons — rather a remarkable fact in organic chemistry, where we find, generally, only one very active principle at the base of any particular production in the vegetable kingdom. It is indeed asserted by Landerer, that there is none of this deadly oil in the fresh leaves of tobacco; and Mr. Pereira remarks, that the substance must be developed in the drying of the leaves under the influ-

ence of air and water. The discovery, if true, may free the weed from the charge of possessing a double poison; but the consequence is all the same to the foreign consumer, who never sees the leaf in its green state.

6. It has been said that the smoke of tobacco, as analysed by Zeise and others, contains nothing of the deadly alkaloid, and tobacco smokers have pleaded for less detrimental effects from the pipe or cigar than from the quid; but I fear their conclusion is not very tenable, for the detrimental oil, as we in fact see from the pipe itself, is largely increased by the continued roasting and burning. We know, too, that the old pipe is a favorite with the epicures; the more oil by which it is blackened the better becomes the instrument, till it attains perfection as a mass of clay soaked with poison, and dried, and soaked and dried a hundred times, so that the entire matter is imbued with the absorption. See Dr. Waller Lewis's recommendation to the gentlemen of the London Post-Office, at page 137. The chewer takes less of the oil, but more of the alkaloid; the smoker less of the alkaloid, but more of the oil; the comparison is simply a balance of evils, which is odious to either set of debauchees, and some get quit of the invidious comparison by taking the drug in both forms—a refuge from scientific doubt compensating for the greater amount of destruction to health and comfort. But if we are to believe Dr. Morries, the nicotianin is not destitute of a portion of the alkaloid; and as we know that the inhaled smoke is largely infected with the oil of an old pipe, the smoker has less to say for his habit than the chewer will concede; and I fairly admit, that it does

not appear to me to be at all clear, that the former has any advantage over the latter in other respects; for while the smoker's account must be debited with the topical diseases, chiefly carcinomatous, from which the chewer is to a great extent free, he consumes a far greater portion of the weed than his competing debauchee—a surplus so great, in the confirmed cigar smoker, that we are often called upon for a surprise at the number of these small rolls which constitute his daily supply.

7. Turning to the main part of our subject, the physiological effects, we find that, in the carnivora, tobacco shows its power in a very striking manner, causing vomiting, purging, universal trembling, staggering, convulsions, and stupor. Physiologists are not at one in regard to the peculiar mode of action; the nerves are probably the principal medium; but the many instances we have on record, of death produced by an application of small quantities to wounds, would indicate that the process is more complex. There is an ingenious experiment reported, where the effect of tobacco was noticed in an animal whose head was cut off, and artificial respiration kept up. The tobacco did not, as in the ordinary case, paralyse the heart; and the conclusion is accordingly drawn, that it is through the medium of the brain that the death action is exercised on that organ. But the whole of this question is rendered dubious or difficult by other facts. For instance, there is a difference of action between the alkaloid and the oil; the latter of which is said not to possess the power of paralyzing the heart. Applied to the tongue of a cat, one drop of the oil caused convulsions, and in two minutes death,

without for some time affecting much the action of the heart; so that, in this respect, it operates very much in the manner of prussic acid.

8. On man, the physiological effects have been very minutely observed. I cannot do better than give the words of Mr. Pereira: "In small doses, tobacco causes a sensation of heat in the throat, and sometimes a feeling of warmth at the stomach. These effects are, however, less obvious when the remedy is taken in a liquid form, and largely diluted. By repetition, it usually operates as a diuretic, and less frequently as a laxative. Accompanying these effects are often nausea, and a peculiar feeling, usually described as giddiness, scarcely according with the ordinary acceptation of this form. As dropsical swellings sometimes disappear under the operation of these doses, it has been inferred that the remedy promotes the operation of the absorbents. In larger doses it promotes nausea, vomiting, and purging: though it seldom gives rise to abdominal pain, it produces a most distressing sensation of sinking at the pit of the stomach. It occasionally acts as an anodyne, or more rarely promotes sleep. But its most remarkable effects are languor, feebleness, relaxation of muscles, trembling of the limbs, great anxiety, and tendency to faint. Vision is frequently enfeebled, the ideas confused, the pulse small and weak, the respiration somewhat laborious, the surface cold and clammy, or bathed in a cold sweat, and, in extreme cases, convulsive movements are observed. In excessive doses, the effects are of the same kind, but more violent in degree. The more prominent symptoms are nausea, vomiting, and in

some cases purging, extreme weakness, and relaxation of the muscles, depression of the vascular system (manifested by feeble pulse, pale face, cold sweats, and tendency to faint), convulsive movements, followed by paralysis, and a kind of torpor terminating in death."

9. As an accompaniment to these physiological effects, I may here give an extract from the newly published pamphlet by Monsieur Fiévée, showing the mental or moral effects of this deleterious agent.

"We do not insist principally on the material disasters resulting from tobacco, knowing very well that any reasoning on this subject will not produce conviction. A danger of far greater interest to those concerned in the preservation of the individual, is the enfeeblement of the human mind, the loss of the powers of intelligence and of moral energy; in a word, of the vigor of the intellect, one of the elements of which is memory. We are much deceived, if the statistics of actual mental vigor would not prove the low level of the intellect throughout Europe since the introduction of tobacco. The Spaniards have first experienced the penalty of its abuse, the example of which they have so industriously propagated, and the elements of which originated in their conquests and their ancient energy. The rich Havanna enjoys the monopoly of the poison which procures so much gold in return for so many victims; but the Spaniards have paid for it also by the loss of their political importance, of their rich appanage of art and literature, of their chivalry, which made them one of the first people of the world. Admitting that other causes operated, tobacco has been one of the most influ-

ential. Spain is now a vast tobacco shop, and its only consolation is, that other nations are fast approaching to its level. Tobacco, as the great flatterer of sensuality, is one of the most energetic promoters of individualism—that is, of a weakening of social ties. Its appearance coincides fatally with reform and the spirit of inquiry. Man inaugurates the introduction of logic in matters inaccessible, at the same time that, as Montaigne says, he gives way to a habit destructive of the faculty of ratiocination—a contradiction which shows us that necessity of defect by which he is tormented.”

My own experience confirms much of this, but a more particular physiological account will be found in my Practical Observations. The reader will find a very interesting paper by Dr. Alfred Swaine Taylor, in Guy's Hospital Reports, Vol. IV., p. 345.

## CHAPTER II.

PRACTICAL OBSERVATIONS ON THE USE AND ABUSE  
OF TOBACCO.

10. ALTHOUGH for a considerable time past I had collected many important facts regarding the Use and Abuse of Tobacco, the publication of these Practical Observations has nevertheless been in some measure accelerated by the perusal of a paper by Professor Sigmund of Vienna, "Upon Syphilitic Contagion from Cigar Smoking," which appeared in the *Medical Times and Gazette*, under "Selections from Foreign Journals." From the brief statement there given, it is difficult to decide what opinion Dr. Sigmund entertains on the subject—whether he considers that the tobacco generates the syphilitic ulceration of the lips, tonsils, and gums; or that the cigar is impregnated with the venereal virus, through the medium of the manufacturer of it.

11. Many cases of syphilitic virus, introduced into the healthy constitution, by smoking a cigar or pipe used by a diseased person, have come under my notice. The practice is by no means uncommon, in some ranks of life, for two individuals to smoke the same pipe or cigar alternately, the one taking a puff, or *draw*, after the other, and in this way the morbid poison produces a similar effect to what is exemplified in the communica-

tion of yaws or sibbens, by drinking out of an infected cup or vessel. I have often been consulted by gentlemen having marked syphilitic ulcerated throat, which they could not account for, having had no primary symptoms on the genitals. On interrogating them, they have admitted lighting a pipe used by another, or having accepted a puff of a friend's cigar. Some patients have presented themselves with syphilitic ulceration on the lower or upper lip, or the commissure between them having a thickened base. Some have had syphilitic ulcers of the mucous membrane of the cheeks, tongue, and tonsils. A few have had, with the preceding ulcers, secondary eruption of the skin and loose hair: while others have been affected with secondary condylomata. I once witnessed an operation performed upon a woman with syphilitic ulcer of the lower lip, combined with a hardened base, produced by smoking a pipe of a syphilitic patient. Excision of the diseased mass was resorted to by the operator, a man of great experience and dexterity, mistaking the affection for carcinoma. In a few weeks after the operation, the secondary syphilitic eruption manifested itself, and was cured by the hydriodate of potass. It is scarcely possible to heal a syphilitic sore, or to unite a fractured bone, in a devoted smoker — his constitution seems to be in the same vitiated state as in one affected with scurvy.

12. A writer on tobacco describes Paris, in its relation to smoking, thus: "In Paris," says he, "it is impossible to walk in the streets without being constantly exposed to receive into the mouth, and consequently to inhale, the fumes of tobacco from so many mouths, clean and

unclean, passing before and behind, to the great annoyance, and indeed injury to the health of every one, and most disgusting to those cognizant of its poisonous effects. In the arcades and passages it is particularly offensive and obnoxious, the atmosphere of those close places being always contaminated by the pestilential exhalations. I may add, this must be still more so the case in the smoking-rooms of our clubs. And I may here put a query—May not the fumes of tobacco, exhaled from a smoker laboring under syphilitic sore throat and mouth, be inhaled by a clean, healthy individual, with an abraded or ulcerated lip, and the former contaminate the latter? I have seen syphilitic ulceration of the lip, the chin, the mouth, and the throat, individually and collectively, where no trace whatever could be brought to bear on how the ulcers were caused. How often does syphilitic onychia occur without our being able to discover any contamination?"

13. A remarkable change occurs to the excessive smoker, when he labors under influenza or fever, as he then not only loses all relish for the cigar or pipe, but even actually loathes them. Does not this important fact satisfactorily show, that the *furor tabaci* depends on the morbid condition produced on the salivary secretion and organ of taste by the deleterious drug, and at the same time illustrate the pathological law, that two morbid states seldom or ever co-exist in the same individual? The sudden removal of all desire to smoke, affords the best refutation to the delusive representations which the unhappy tobacco victim urges for continuing the injurious habit, on the ground, that its abandonment would

be prejudicial to his health, and proves, if he had a *will* to relinquish the pipe or cigar, he would find a *way*. The best argument to use in dealing with the obstinate prejudices of such people, is to tell them, that an *accidental* attack of a new disease can *safely and at once* occasion the total withdrawal of tobacco without producing any bad consequences. It is scarcely possible to cure either syphilis or gonorrhœa, if the patient continue to indulge in smoking tobacco.

14. When tobacco is too much indulged in, it produces, both locally and constitutionally, the most dire effects. Locally, smoking causes ulceration of the lips, tongue,\* gums, mucous membrane of the mouth or cheeks, tonsils, velum, and even pharynx. Many, from smoking, produce carcinomatous ulceration of the lower or upper lip, or its commissure, requiring excision of the diseased structure. One individual, a captain of the Indian navy, fell a victim under my care (from smoking Cherouts). When I first saw him, he had ulceration of the mucous membrane of his left cheek, extending backwards to the tonsil and pharynx of the same side, having all the characteristic appearances of carcinoma. The disease resisted every variety of treatment. Internally — alteratives and mild diet; externally — fomentations, poultices, a solution of honey and water, and nitric acid. From this case, and other instances, it would appear that the cigar induces carcinoma just as readily as the *cutty-pipe*. It would seem that the pungent oil of the tobacco, combined with the heat, constitutes the ex-

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\* See Chapter III., p. 132.

citing cause. The ulceration of the lips, especially the lower, so closely resembles syphilis, that it requires great care and examination to distinguish it. If there be no carcinomatous condition of the ulcerated surface of the lips, mouth, or throat, rinsing the mouth with a solution of honey (a teaspoonful in a tumbler of warm water) three or four times a day, prescribing an alterative powder of the bicarbonate of soda  $\mathfrak{D}ji$ , rhubarb  $g_v^{ra}$ , columba  $g_v^{ra}$ , twice a day; a blue pill once a week; light diet, as the farinaceous, with occasionally fowl or veal; confinement to a large, well-ventilated room; and the rigid abstinence of the pernicious weed, will generally soon effect a cure. In some, it may be necessary to touch the ulcerated surface with nitric acid every fourth or fifth day.

15. Devoted smokers as pertinaciously insist, that they cannot give up such a luxury, as the drunkard affirms that he cannot relinquish his stimulus. But I have known instances in both classes of individuals manfully giving them up. There is an officer in Her Majesty's service who had upwards of ten severe attacks of *déli-rium tremens*, and is now a teetotaller; and he has been so for upwards of fifteen years.

16. The following case, from the *Half-Yearly Abstract of the Medical Sciences*, for January onwards to July, 1854, page 70, satisfactorily shows that tobacco can be given up. It is likewise a terrible illustration of its baneful effects on the constitution. Drs. Rankin and Radcliffe, the editors, head it, "A case of *Angina Pectoris* resulting from the Use of Tobacco," and thus introduce it: "The following case possesses a very high

degree of interest." The history of the case is thus related by Dr. Corson, of New York :

"A highly intelligent man, aged sixty-five, stout, ruddy, early married, temperate, managing a large business, after premising that he commenced chewing tobacco at seventeen, swallowing the juice, as is sometimes customary, to prevent injuring his lungs from constant spitting, and that years after he suffered from a gnawing, capricious appetite, nausea, vomiting of meals, emaciation, nervousness, and *palpitation of the heart*, dictated to Dr. Corson, recently, the following story :

"Seven years thus miserably passed, when, one day after dinner, I was suddenly seized with intense pain in the chest, gasping for breath, and a sensation as if *a crowbar were pressed tightly from the right breast to the left, till it came and twisted in a knot round the heart, which now stopped deathly still for a minute, and then leaped like a dozen frogs*. After two hours of death-like suffering, the attack ceased ; and I found that ever after my heart *missed every fourth beat*. My physician said that I had organic disease of the heart, must die suddenly, and need only take a little brandy for the painful paroxysms ; and I soon found it the only thing that gave them any relief. For the next twenty-seven years I continued to suffer milder attacks like the above, lasting from one to several minutes, sometimes as often as two or three times a day or night ; and to be sickly looking, thin, and pale as a ghost. Simply from revolting at the idea of being a slave to *one vile habit alone*, and without dreaming of the suffering it had cost me,

after *thirty-three years'* use, I one day threw away tobacco forever.

“ ‘Words cannot describe my suffering and desire for a time. I was reminded of the Indian, who, next to all the rum in the world, wanted all the tobacco. But my firm will conquered. In a month my paroxysms nearly ceased, and soon after left entirely. I was directly a new man, and grew stout and hale as you see. With the exception of a little asthmatic breathing, in close rooms and the like, for nearly twenty years since I have enjoyed excellent health.’ ”

On examination, Dr. Corson found the heart seemingly healthy in size and structure, only *irregular*, intermitting still at every fourth pulsation.

17. After such well-marked examples of manly firmness, no one need pretend to affirm that the luxury of smoking, snuffing, plugging, or chewing, or quidding, cannot be given up; or that the stimulus of wine, or spirits, or malt liquors, cannot be relinquished. I may here remark, that chewing or quidding does not seem to irritate the mucous membrane of the mouth to the extent that smoking does; it never causes ulceration.

18. Some of the constitutional effects of tobacco have been already detailed under Dr. Corson's case. But I shall commence their enumeration by generally stating, that they are numerous and varied, consisting of giddiness, sickness, vomiting, dyspepsia, vitiated taste of the mouth, loose bowels, diseased liver, congestion of the brain, apoplexy, palsy, mania, loss of memory, amaurosis, deafness, nervousness, emasculation, and cowardice.

19. When a youth commences his apprenticeship to

smoking tobacco, he suffers often the most inconceivably miserable sickness and vomiting — almost as bad as seasickness. It generally produces these effects so rapidly, that their production must entirely depend upon nervous influence, as giddiness is almost immediately induced. The antidote or cure for this miserable condition is drinking strong coffee, or brandy and water, and retiring to bed or sofa. If he perseveres, he has just to suffer onwards, until his nervous system becomes habituated to the noxious weed, and too often to the bottle at the same time. It is truly melancholy to witness the great number of the young who smoke now-a-days; and it is painful to contemplate how many promising youths must be stunted in their growth, and enfeebled in their minds, before they arrive at manhood.

20. "Let the young adept," says Boussiron, in his interesting Treatise on Tobacco, "whom you wish to form by your lessons, smoke the leaves of tobacco, thorn-apple, or deadly night-shade, and you may be certain to see take place the effects nearly identical in violence — giddiness, intoxication, disturbed vision, nausea, vomiting, and frequently diarrhœa."

21. Dyspepsia from the use of tobacco is accompanied with the same symptoms as when the disease is produced by drinking or gluttony, and want of exercise in the open air. The only cure is, by "*throwing away tobacco for ever*" — and this will be accelerated by a blue pill once a week, the alterative powder morning and evening, prescribed under ulceration of the mouth, the infusion of quassia, or quassia and gentian combined, mild nutritious diet, as coffee or tea, with lightly toasted bread,

beef-tea with or without rice, or toast for three or four days, a glass or two of sherry wine, and exercise in the open air, either on foot or horseback, or carriage, or still better, all combined. Exercise should be taken before meals, and the patient lounge on a sofa for two or three hours after meals. Change of air, fully fifty or one hundred miles distant, is of great benefit. After three or four days, beef-steak or mutton-chop should supersede the beef-tea, and then a few vegetables, well boiled, may be taken. A few drops of the balsam of copaiba, say eight or ten drops combined, with ten of aquæ potassæ, and a teaspoonful of sweet nitre, in half a cup of cold water sweetened, and taken at bed-time, has a most soothing effect. Frank's Specific is the most elegant and agreeable preparation of copaiba, even preferable to the capsules. There is an imitation of Frank's Specific prepared by the chemists of London.

22. The vitiated taste of the mouth is generally a symptom of dyspepsia, and is to be cured in the same way.

23. The looseness of the bowels is to be treated by "*throwing away tobacco for ever*;" by prescribing an astringent mixture of the electuary of catechu, prepared chalk, syrup of ginger and laudanum; by farinaceous and milk diet for eight days, with rest in bed for four or five days, then for the same time on a sofa. At the end of eight or ten days, beef soup with rice, or lightly toasted bread, puddings of rice, sago, and arrow root, for four or five days. Then beef-steak or mutton-chop, with rice, lightly toasted bread, and a glass or two of port wine,

made into negus or mulled. Exercise in the open air should now be freely taken.

24. During the prevalence of cholera, I have had repeated opportunities of observing, that individuals addicted to the use of tobacco, especially those who snuff it, are more disposed to attacks of that disease, and generally in its most malignant and fatal form.\*

25. Disease of the liver seems to be caused by the tobacco exciting the system, and by the dyspeptic symptoms produced. It is to be treated by "*throwing away tobacco for ever*;" by prescribing half a grain of the protoioduret of mercury, with or without opium, according to the state of the bowels, made into a pill with the extract of gentian, morning and evening; by an infusion of quassia, or quassia and gentian combined; by blistering over the region of the liver, and dressing the tender surface with mercurial ointment. In some cases it is necessary to keep a portion of the blistered surface open for some time. In the commencement, rest, and farinaceous and milk diet. Afterwards, exercise in the open air, beef-tea with rice, or lightly toasted bread, for a few days; and then beef-steak or mutton-chop, and a glass or two of sherry. If the protoioduret threatens to affect the mouth, it should be given up, and the same with the mercurial dressing of the blistered surface. Dr. Scott of India's foot-bath of nitro-muriatic acid is often beneficial. When convalescent, nothing is so beneficial as change of air.

26. Congestion of the brain occurs almost only in

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\* See Fenn's cases, p. 66.

those much addicted to smoking, in whom a cigar is never out of the mouth; but I have witnessed it also to occur in the snuffer of the plant. It is denoted by headache, want of sleep, or rather restless nights, and occasionally flushing of the countenance. The worst case I have had under my care was a foreigner, who travelled for a manufacturer of cigars — he was at the same time fearfully nervous. He had a red, swollen countenance, as if he combined the bottle with his smoking, but this he assured me he never did — the tobacco was enough for him. I inserted an issue or seton in the nape of his neck, purged him with calomel and aloes, put him on as low a diet as he would permit, confined him to the house, and entreated him to smoke as few cigars as possible. In a fortnight the congestion of the brain was subdued, and then he was allowed gradually more and more nourishing diet and exercise in the open air. He returned to Edinburgh in two years after in good health but still nervous even from the moderate use of cigars. He said that he had tried to give them up altogether, but that he had found that impracticable — a difficulty connected, no doubt, with his avocation.

27. Apoplexy has been taken notice of by several authors, supervening to the smoking of tobacco: also to the immoderate use of snuff, as related by Morgagni; likewise in the *Ephemerides des Curieux de la Nature*, and in the *Journal d'Allemagne* for 1830, page 179. The treatment here is the same as that for congestion of the brain.

28. The form of palsy produced by excessive smoking is generally hemiplegia, and it is almost always incurable.

ble. It follows as often from too much snuffing as too much smoking. The treatment consists in "*throwing away tobacco for ever*," inserting setons in the lumbar region, tonics, cold bathing, and good diet.

29. Mania is a fearful result of the excessive use of tobacco—two cases of which I have witnessed since the publication of this treatise. I have also to mention, that a gentleman called on me, and thanked me for the publication of my Observations on Tobacco, and related to me, with deep emotion, what had occurred in his own family from smoking tobacco. Two amiable younger brothers had gone deranged, and committed suicide. There is no hereditary predisposition to mania in the family. At a meeting of the Medical and Chirurgical Society of London, on May 2d, 1854, a paper was read, entitled, "Additional Remarks on the Statistics and Morbid Anatomy of Mental Diseases," by Dr. Webster, wherein he cites, among the causes, the great use of tobacco, which opinion he supported by reference to the statistics of insanity in Germany.

30. Loss of memory takes place in an extraordinary degree in the smoker, much more so than in the drunkard, evidently from tobacco acting more on the brain than alcohol. The cure consists in "*throwing away tobacco for ever*."

31. Amaurosis is a very common result of smoking tobacco to excess; but I have never seen it produced by snuffing or chewing. It occurs with or without congestion of the brain. It is commonly confined to one eye. It is generally curable, but not always, by "*throwing away tobacco for ever*"—by inserting a seton in the

back of the neck, another seton in the temple or temples, according as one or both eyes are affected. In the course of eight or ten days, the seton in the temple is to be withdrawn, a common fly blister applied, and the blistered surface sprinkled with strychnia. The bowels to be freely opened with calomel and aloes. The diet to be light, as the farinaceous. The patient should be confined in a large, well-ventilated apartment, and an obscure light.

32. Deafness is not so common a sequence to smoking tobacco as amaurosis. It is to be treated on precisely the same principles, with the difference of applying the blisters and strychnia behind the ears.

33. Nervousness is remarkably common from indulging too much in smoking, snuffing, or chewing tobacco. It is to be treated by "*throwing away tobacco forever*" — by having recourse to the shower-bath in winter, and sea-bathing in summer — by nourishing diet, attention to the bowels, the alterative powder, as prescribed under ulceration of the lips, the tonics, as quassia and gentian, and even quinine; exercise in the open air, and by mixing in quiet, agreeable society, as the nervous system is easily and readily over-excited; and, lastly, by change of air, and ultimately travelling about.

34. Emasculation, as an effect of tobacco, may well astonish the gay Lothario, as he might, unconscious of the cause, have boasted, that "never in my youth did I apply the means of weakness and debility." I have been consulted by fathers of from thirty to forty years of age, who, having married in early life, have had two or three children soon after marriage onwards to thirty

years old, but have been surprised that they had eventually lost all inclination for sexual indulgence. On interrogating them, I have invariably found that they were all excessive smokers; and on convincing them that tobacco was the cause of their temporary impotence, they have instantly "*thrown away tobacco forever,*" and in a few months after have returned to me, saying that they had become fathers again. I have found unmarried men similarly affected with the want of the sexual *vis et animus*.

35. I have invariably found, that patients addicted to tobacco smoking were in spirit cowardly, and deficient in manly fortitude to undergo any surgical operation, however trifling, proposed to relieve them from the suffering of other complaints. In such cases chloroform is a great boon.

36. When we consider the effect of tobacco in tetanus, and in strangulated hernia in former days, we can readily comprehend its powerful narcotic effects: they are stronger than opium—opium differing from tobacco only in constipating the bowels. The use of tobacco for medical purposes has been long known, but its application has been carried, *fundamentally*, of late, to the full extent to which the human body can be subjected—a cigar having been actually inserted into the anus, by an American physician, as a medical reagent—thus introducing the poison into every vital passage.

37. The number of people who from twelve years of age are given to smoking, snuffing, plugging, and chewing, or quidding the noxious weed, appears quite incredible. By its so general consumption, we must become

changed in both corporeal and mental faculties—we cannot fail to be enfeebled in body and mind, and become a deteriorated race. I once travelled with a gentleman from South America, who first filled his nostrils with snuff, which he prevented falling out, by stuffing shag tobacco after it, and this he termed “plugging”—then put in each cheek a coil of pigtail tobacco, which he named “quidding,” in this country called “chewing:” lastly, he lit a Havannah cigar, which he put into his mouth; and thus smoked and chewed, puffing at one time the smoke of the cigar, and at another time squirting the juice from his mouth, as so graphically described by Dickens in the boat story, on the way to the Far West. This gentleman was as thin as a razor, with an olive-colored countenance, and frightfully nervous. The preceding is neither a caricature, nor an exaggerated account of the fearful extent to which the use of tobacco is carried—not merely in Europe, as we know, but, as there is every reason to fear, in every quarter of the globe where it either grows, or is unhappily conveyed.

38. There can be no doubt, from what has occurred in the war just ended, that had the Turks never indulged in the vicious habit of smoking tobacco, they would not have required the assistance of the French, Sardinians, and British. They would have been as powerful as in the days of the Sultans Othman, Orchan, Amurath the First, and Bajazet, and would have sent such a message through Menschikoff to the Czar Nicholas, as the Sultan Bajazet said to the Count de Nevers, of France, when taken prisoner after his celebrated unsuccessful cavalry charge (like that at Balaklava) near Nicropolis.

39. It is allowed by British and other European officers, that the Turkish soldier is equal, if not superior, to the private soldier of any other European nation.\* But the officers are ignorant, lazy, and indolent, constantly stupefied with tobacco. The late expedition of Omer Pacha from Batoun to Kutais, is graphically described by one of the correspondents of an English journal: while the private soldiers were toiling away in dragging the artillery through forests, their officers were *squatted*, smoking their pipes or chibouques!

40. It is stated that Abbas the First, Shah of Persia in the beginning of the seventeenth century (he reigned from 1587 to 1629), denounced opium and tobacco; and that, when leading an army against the Cham of Tartary, he proclaimed that every soldier in whose possession tobacco was found, would have his nose and lips cut off, and afterwards be burnt alive. He re-established the Persian empire by his activity and conquests.

41. Amurath the Fourth, of Turkey, denounced the use of tobacco. He ended his reign in 1389.

42. The manner of the embodiment of the Janizaries, and especially their training for soldiers by their founder Ala-ed-deen, the brother of the Sultan Orchan, is well worth the consideration of the Secretary-at-War, the Commander-in-Chief, the Horse-Guards, and, more particularly, of the Army Reform Commissioners.

43. "The Mahrattas, in working a battery, never pointed their cannon so as to mark in a particular spot,

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\* *Vide* Le Continent, in 1854. Paris, 1854. Also, General Williams's (the brave defender of Kars) Speech at the Army and Navy Club, June, 1856.

but aimed at random all round the wall. After loading a gun they sat down, smoked and conversed for half-an-hour; then fired, reloaded, and resumed their conversation. Two hours at mid-day, by mutual consent, were set apart for meals and recreation." "The English calculated seven years as the period in which a breach might be effected."\*

44. It is stated that the Sikhs, now named the Punjabees, never smoke tobacco, it being contrary to their religion. I may ask, are there any soldiers in India equal to the Sikhs? At Chillianwallah, at Moodkee, at Ferozshah, at Aliwur, at Mooltan, at Sobraon, no soldiers behaved better.

45. Mr. Meadows, in an interesting account of the Chinese, states, that "the soldier who smokes tobacco is bamboozed, and he who smokes opium is beheaded."—*Vide British Quarterly Review, No. 51, for July, 1857, page 49.*

46. Rumph, in his *Herbarium Amboinense*, says, that the Chinese and natives of India used tobacco only as a medicine or medicament. "Neutiquam," he observes, "vere ad suctionem sed tantum modo ad usum medicum unanimo enim consensu, Indi assentiunt sese Tabaci suctionem ab Europeis dedicisse."

47. The celebrated French surgeon, Percy, states, that tobacco was as regularly served out to the French soldiers as provisions, and thus comments on the practice: "It had doubtless been calculated that smoking hurt the appetite; and to save daily from four to six

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\* Murray's *British India*, vol. ii. p. 127. The author here alludes to the siege of Darwar, occupied by Tippoc in September, 1791.

ounces of bread per man, they furnished him with three farthings' worth of bad tobacco. During the conquest of Holland, Louvois paid more attention to furnishing tobacco than provisions; and even at this day, as well as in former times, more care is taken to procure tobacco than bread to the soldier. Every soldier was obliged to have his pipe and his match."

48. Constant relates the following anecdote of the great Napoleon: "Napoleon," says he, "once took a fancy to smoke, for the purpose of trying a very fine oriental pipe presented to him by a Turkish or Persian ambassador. Preparation having been made—the fire having been applied to the recipient—nothing more was to be done than to communicate it to the tobacco, but that could never be effected in the way taken by his majesty for that purpose. He contented himself with opening and shutting his mouth alternately, without the least in the world drawing in his breath. 'How the devil,' cried he at last—'that does nothing!' I made him observe, that he made the attempt badly, and showed him the proper mode of doing it. But the emperor always returned to his kind of yawning. Wearied by his vain attempts, he at last desired me to light the pipe. I obeyed, and returned it to him in order. But scarcely had he drawn in a mouthful, when the smoke, which he knew not how to expel from his mouth, turned back into his palate, penetrated into his throat, and came out by the nose and blinded him. As soon as he recovered breath—'Take that away from me—what abomination! Oh, the swine!—my stomach turns!' In fact, he felt himself so annoyed for at least an hour, that he renounced

for ever the pleasure of a habit which he said was only fit to amuse sluggards."

49. The students attending the American colleges are said to destroy their physical and moral powers by smoking tobacco, so as to unfit them to prosecute their studies, and afterwards to become useful members of society. But we have even the judges on the bench *quidding* tobacco, as well as the members of parliament, so facetiously described by Dickens in his American Notes for general circulation, wherein he terms Washington the head-quarters of tobacco-tinctured saliva. Dr. Budget, in his treatise on tobacco, states, that in America, "it is no uncommon circumstance to hear of inquests on the bodies of smokers, especially youths; the ordinary verdict being, 'died from extreme tobacco smoking.'"

50. "The pupils of the Polytechnic School in Paris have recently furnished some curious statistics bearing on the tobacco controversy. Dividing the young gentlemen of that college into two groups—the smokers and non-smokers—it is shown that the smokers have shown themselves in the various competitive examinations far inferior to the others. Not only in the examinations on entering the school are the smokers in a lower rank, but in the various ordeals that they have to pass through in a year, the average rank of the smokers had constantly fallen, and not inconsiderably, while the men who did not smoke enjoyed a cerebral atmosphere of the clearest kind."—*From the Globe, also the Dublin Medical Press.*

51. Excessive smoking has had no small share in the

degeneration of Spain. A Spaniard is never without a cigar in his mouth. It was observed during the Peninsular war, that the Spanish officers passed the whole day in smoking, in cutting and mincing tobacco to make paper cigars, and in eating and sleeping — and never existed men sunk in such idleness, indolence, and apathy. I am sorry to add, that the Portuguese were in the same degraded condition. Germany is said to be as immersed in tobacco as Spain. And I fear we are fast drifting into the same degraded condition. Fenelon says, "Youth is the flower of a nation; it is in the flower that the fruit should be cultivated." Condorcet, on the progress of the human mind, thus concludes: "Such is the practice of using fermented liquors, hot drinks, opium,\* and tobacco, that men have sought with a kind

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\* The author of "Confessions of an English Opium Eater," states, that the number of *amateur* opium-eaters in London is immense. And in Manchester, the work people of the cotton manufactories are rapidly getting into the practice of opium-eating. In the Nineteenth Report of the Inspectors of Prisons in the Northern and Eastern Districts of England, it is stated that, in the district of Wisbeach, "opium-eating is very prevalent in this district, and the use of the drug is *often apparent* in its effects on the *morals* and *intellects* of the *prisoners*." The Rev. A. S. Thelwall, in his interesting work on "The Iniquities of the Opium Trade with China," gives a deplorable account of the destructive effect on the health of the Chinese who indulge in it. He gives a translation of a memorial to the Emperor, by Choo Tsun, a member of Council, &c. "In the history of Formosa," says he, "we find the following passage: Opium was first produced in Kaoutsinne, which by some is said to be the same as Kalapa or Batavia. The natives of this place were, at the first, sprightly and active, and, being good soldiers, were always successful in battle. But the people called Hung-maou (red-haired,) came thither, and having manufactured opium, seduced some of the natives

of frenzy, means of procuring sensations which may be continually renewed. There are few nations among whom these practices are not observed, from which is derived a pleasure that occupies whole days, or is repeated at every interval, that prevents the weight of time from being felt, satisfies the necessity of having the faculties roused, and at last blunting the edge of

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into the habit of smoking it. From these the mania for it spread rapidly throughout the whole nation; so that in process of time the natives became feeble and enervated, submitted to foreign rule, and ultimately were completely subjugated. Now the English," continues he, "are of the race of foreigners called Hung-maou. In introducing opium into this country, their purpose has been to weaken and enfeeble the Central Empire. If not early aroused to a sense of our danger, we shall find ourselves ere long on the last step towards ruin." "It thus appears," concludes Choo Tsun, "it is beyond the power of any artificial means to save a people enervated by luxury." In the same memorial, Choo Tsun thus observes: "While the stream of importation of opium is not turned aside, it is impossible to attain any certainty that none within the camp do ever secretly inhale the drug. And if the camp be once contaminated by it, the baneful influence will work its way, and the habit will be contracted beyond the power of reform. When the periodical times of desire for it come round, how can the victims (*their legs tottering, their hands trembling, their eyes flowing with child-like tears,*) be able in any way to attend to their proper exercise? Or how can such men form strong and powerful legions? Under these circumstances, the military will become alike unfit to the fight, or in a retreat to defend their posts. Of this there is a clear proof in the instance of the campaign against the Yaou rebels in 1832. In the army sent to Lëenchnow on that occasion, great numbers of the soldiers were opium-smokers; so that, although their numerical force was large, there was hardly any strength to be found among them." If the smoking of opium produces such direful effects, why should not tobacco? They are both narcotics, nay, tobacco is the more potent narcotic or poison.

this necessity, thus prolongs the duration of the infancy and inactivity of the human mind. These practices, which have proved an obstacle to the progress of ignorant and enslaved nations, produce also their effects in wise and more civilized countries, preventing truth from diffusing, through all degrees of men, a pure and equal light."

52. While investigating the baneful influence of tobacco, I have been led to consider the effects of brandy and other stimulants on the courage of the soldier, during the last Russian war. It appears to me, that the Russians lost their different battles in the Crimea chiefly from having served out to them too much brandy or raki, immediately before entering into action. This was especially remarked after the battle of Inkermann. That extraordinarily intelligent soldier, Philip O'Flaherty, in his Sketches of the War, thus observes, after the battle of Inkermann: "We took a good many prisoners who were half-drunk. It appears that the authorities supplied the men *plentifully* with liquor, in order that they might fight well. The Russians had a great many killed and wounded. The hills were strewn with them." This intoxicated condition of the Russians is also described in several letters from the camp. Even our own troops, about the conclusion of the war, were becoming excessively addicted to drinking. It may be said that the Russians, besides their prodigal allowance of raki, were often led into action after long forced marches, and in an ill-fed condition. Nevertheless, the over-dose of raki would, in my estimation, detract from their powers of endurance, instead of prolonging them.

53. Our prize-fighters are not allowed stimulants or *tobacco*, either during the time of their training, or on the day of their battle—not even during their fighting. The training of the prize-fighter, with some modification, appears admirably adapted to the rearing of soldiers, especially young recruits. I understand boat-racers, like pugilists, are prohibited tobacco. See *Lancet* for 2d May, 1857. The huntsman who indulges in a glass of brandy (jumping powder) on the morning of the chase, does not ride to hounds like the sober rider. The Iron Duke, or any other true sportsman, never indulged on the morning of a hunt with fox-hounds. The hunter, or horse, gets only a small feed of oats, on the morning of his going out to hounds. The fox-hound gets no food on the day of his chase. The greyhound, like the fox-hound, is fed the day before. The race-horse gets only half a feed of oats on the morning of his race.

54. Thus men and animals, intended for a hard day's work, depend on the stamina acquired by previous training, and not on immediate stimulus. It is evident, that had mankind never indulged in stimulants or narcotics, they would have been earlier advanced in civilization, humanity, and morality—would have had stronger physical and higher mental powers. Let us read only the history of the great Franklin. He who smokes and drinks has his mind stupefied, like the opium-eater, or the wine-bibber, or the brandy, whisky, or ale-drinker. It is only what his mind has previously learned that he makes, or can make use of. He cannot advance a step farther.

55. The cases of diseased brain and spinal cord oc-

curring in tobacco-smokers, afford strong proof that tobacco, besides affecting the nervous system through the medium of the nerves of the nose and mouth, when smoked, must also enter into the circulation of the blood, by being mixed with the saliva, and swallowed, and thus taken up by the lacteals or absorbents. The latter process must take place in those who use tobacco in the form of snuff, as it must often be swallowed, especially during sleep. It must also occur in those who chew or *quid* the weed. The relaxation of the bowels, terminating in obstinate diarrhœa, proves that it passes down the alimentary canal with the saliva, even in the smoker.

56. When *nux vomica*, or its alkaloid, strychnia, is prescribed in small doses, several days elapse before its effects on the constitution are exemplified; and, in like manner, a considerable period intervenes before its effects leave the system, after it has been discontinued. The same apparent result seems to take place with tobacco. It is evidently a cumulative poison, as is shown by its ultimately producing softening of the brain, and frequently amaurosis.

57. In the above view of the action of tobacco, I am supported by Mr. Solly, in his interesting and able Lecture on Paralysis, published in the *Lancet* for the 13th December, 1856, and of which I have given a brief extract. There is also an interesting paper in the *Lancet* for 3d January, 1857, by Mr. Fenn of Nayland, Suffolk, wherein he states that "he has seen very mild cases of typhoid fever rendered fatal from the excessive use of tobacco." The extreme liability to attacks of typhus fever is now well ascertained; for every febrile state,

from the most simple, even influenza, is liable to degenerate into various typhoid forms. A fuller extract from Mr. Fenn's paper I have already given.

58 The incurable nature of ulceration of the tongue led me to consider whether the poison might not pervade the sanguiferous system, otherwise why should the removal of the diseased mass by ligature, or the knife, prove unsuccessful in eradicating the contaminated tissue? Dr. B——'s and Dr. Tod's case of the woman's tongue, show satisfactorily that the teeth had nothing to do in producing the ulcerated surface. Dr. B——'s case, and Dr. Tod's case of M. J—— T——'s demonstrate, that neither the knife nor the ligature had any effect in arresting the disease; and Sir Astley Cooper's views of the inutility of these means in checking the disease in Dr. B——'s case, confirm these—the constitution of the unfortunate individual having been poisoned with the ensnaring weed, through his ignorance of the nature of his hallowed luxury.

59. Representations have been made of the ulceration of the tongue as it occurred in Dr. B——'s case and also Mr. J—— T——'s. I have here to acknowledge the handsome liberality of Dr. B——, in permitting me to copy the interesting case of an affectionate friend, and the admirable sketches of the diseased tongue, made by that talented draughtsman, Mr. James Stewart. Dr. B—— acknowledges that he was an excessive smoker himself for years, until he became so nervous, that he could not steady his hand, when he "threw away tobacco forever." Here I may remark, how many narrow escapes of having cancer of the

tongue must every smoker have had, when we consider that every one with a disordered stomach has had one or more pimples on his tongue, which, had they been irritated with pungent tobacco smoke, as in Dr. B——'s case, would in all probability have ended in ulceration, becoming cancerous, and ending fatally.

60. Although the subject is yet far from being exhausted, "the tobacco controversy" has nevertheless elicited much additional information, valuable because practical, as to the effect of smoking on the human body, both in a physiological, pathological, and therapeutic aspect. The liberal and enlightened policy of the editor of the *Lancet*, by opening the columns of his journal as the medium for impartial investigation, deserves the warmest expression of thanks, not less from the profession than the public; and I make no apology for availing myself of the many interesting contributions which have there appeared on the subject.

61. Experience is the only test to confirm the decisions of truth, and refute the errors of mere authority. But its verdict unfortunately is in many cases injuriously delayed, in consequence of long-protracted and misleading exculpatory pleadings. "The evil that men do *lives after them*; the good is oft interred *with their bones*;" and this holds equally true with the customs, habits, etc. of a country. The evils these occasion, live after them. Their extent and magnitude are only known *after they have become so apparent* that they cannot longer be denied. And if the controversy evoked on the injurious effects of excessive smoking, should gradually arrest the progress of so dangerous a luxury, and sensibly diminish

a mischief which is unlimited, in a certain sense, almost either as to extent or duration, the author will rest satisfied that his own exertions, with the powerful co-operation which he has received from others, have not been in vain. He would earnestly indeed rejoice, if the national authorities here would adopt the same regulations which obtain in Switzerland. There, we are told, "that the Governing Council of the Canton of Berne have just enacted, that young men who are as yet unconfirmed (confirmation is administered in Switzerland between the fifteenth and sixteenth year) *are prohibited* from using tobacco." As the Council came to this determination in consequence of their belief in the deleterious effects of tobacco on the human frame, it seems equally to be the duty of the Council to extend their regulations, by a general prohibition, when they consider that the health of the community is injured by the use of tobacco.

62. I consider it my duty to append Dr. Hassall's truly valuable and warning remarks on tobacco smoking — to whose long and truly invaluable practical labors in the field, as well as by his writings on "adulterations detected," the nation owes a debt of gratitude which never can be repaid. "Tobacco owes its chief properties to the presence of two active principles, termed *nicotina* and *nicotianin*. The first of these, *nicotina*, is thus characterized: It is liquid and volatile, with an acrid burning taste, and possesses the strong odor of tobacco; to test-paper, it shows an alkaline reaction; water, ether, alcohol, and the oils dissolve it. It combines with various organic and inorganic acids to form salts. 1000 grains of tobacco yield, according to the kind used, from

3.86 to 11.28 grains of nicotina. The action of nicotina on the human frame is that of an acrid, narcotic poison, causing giddiness and vomiting, and, in doses of a few grains, death.

“The properties of the latter, *nicotianin*, are as follow: It is a concrete oily substance, having the smell of tobacco, and a bitter taste. It is volatile; the dilute acids and water do not dissolve it, but it is soluble in liquor potassæ and ether. In swallowing nicotianin, the same sensation is produced on the tongue and fauces as by tobacco. A grain administered internally, quickly caused giddiness, nausea, and retching. It also produces sneezing when applied to the nose. Six pounds of tobacco leaves furnish about eleven grains of nicotianin. It is also known as ‘*concrete oil of tobacco*,’ and ‘*tobacco camphor*.’

“Both these active principles and constituents have been shown, by Zeise and Melsens, to be present in the *smoke* of tobacco: they are, therefore, undoubtedly not destroyed by the combustion of the tobacco, whether used in the form of cut tobacco or cigars; but in the act of smoking they are inhaled, and thus drawn into the mouth, fauces, lungs, and even the stomach, especially when the saliva, impregnated with the tobacco smoke, is swallowed. Further, that these active constituents are actually absorbed, and make their way into the system, is proved from the sickness, giddiness, and death-like faintness experienced by those who are unaccustomed to smoking; that they are absorbed to some degree, if not to the same extent, in the case of habitual smokers of tobacco, is unquestionable — the difference in the effects experienced

being due to the circumstance of the system becoming more inured to its use, and therefore less susceptible of its influence."

63. In a moral and physical point of view, the importance of the inquiry cannot be over-estimated. The strongest proof of this, is attested by the fact, that, during last year, not less than twenty-eight million lbs. (28,000,000) of tobacco were consumed in Great Britain, exclusive of the large portion *smuggled*, which cannot be estimated.

64. A vast load of responsibility is devolved upon the members of the medical profession, who are, if not the sole, by far the most competent section of the community to pronounce a judgment on, and solve so important an inquiry. So far as the discussion has progressed, the three following deductions have been indisputably established by unquestionable medical testimony:

1st. That excessive smoking, *long persisted in*, is injurious to man in the highest degree — physically, mentally, and morally.

2dly. That the commencement of smoking *in early life*, and indulgence in the practice *early in the day*, cannot be too strongly condemned, as leading to most pernicious effects on the constitution.

3dly. That smoking, even in what is called a moderate degree, is, to say the very least of it, indirectly injurious, more especially to the young; because it is not denied, it acts as an inducement to drinking — thus becoming the source of intemperance, and all its accompanying evils. It is notorious that the practices are, almost without exception, inseparably associated. The remark

has become a maxim: "Smoking induces drinking, drinking jaundice, and jaundice death."

65. If insurance companies would act upon Mr. Solly's test—the peculiar morbid condition of the palate and fauces as proving inveterate smoking—and raise the annual premiums to smokers in whom such appearances were detected, *as on hazardous insurances*, the practice of smoking might receive that *great and salutary check, from motives of self-interest*, which admonition and warning, as to the evils resulting from the noxious weed, have failed to effect: and the detection, by Mr. Erichsen, of the mixture of so many deleterious and poisonous ingredients in the manufacture of snuff, it is to be expected, may, in like manner, operate upon *the selfish feelings* of the snuffer, and powerfully *tend to root out* his disgusting habit.

## CHAPTER III.

## COMMUNICATIONS AND EXTRACTS.

66. IN his valuable work on the "Nature and Treatment of Stomach and Urinary Diseases," Dr. Prout, at pages 24 and 25, observes: "There is an article much used in various ways, though not as an aliment, the deleterious effects of which on the assimilating organs, &c., require to be briefly noticed, viz., *tobacco*. Although confessedly one of the most virulent poisons in nature, yet such is the fascinating influence of this noxious weed, that mankind resort to it in every mode they can devise, to ensure its stupefying and pernicious agency. Tobacco disorders the assimilating functions in general, but particularly as I believe, the assimilation of the saccharine principle. I have never, indeed, been able to trace the development of oxalic acid to the use of tobacco; but that some analogous and equally poisonous principle (probably of an acid nature,) is generated in certain individuals by its abuse, is evident from their cachectic looks, and from the dark and often greenish-yellow tint of their blood. The severe and peculiar dyspeptic symptoms sometimes produced by inveterate snuff-taking are well known; and I have more than once seen such cases terminate fatally with malignant disease of the stomach and liver. Great smokers, also, espe-

cially those who employ short pipes and cigars, are said to be liable to cancerous affections of the lips. But it happens with tobacco, as with deleterious articles of diet, the strong and healthy suffer comparatively little, while the weak and predisposed to disease fall victims to its poisonous operation. Surely, if the dictates of reason were allowed to prevail, an article so injurious to the health, and so offensive in all its forms and modes of employment, would speedily be banished from common use."

67. Professor Petit-Radel is said to have died of cancer of the pylorus, consequent on smoking tobacco.

68. Bouissiron states that he has seen many smokers perish of atrophy.

69. Pereira, in his valuable work on Chemistry and Materia Medica, page 1426, states, that "Nicotina is an energetic poison, almost equalling in activity hydrocyanic acid."

70. In the Dictionnaire des Sciences Medicalés for 1821, two brothers are said to have smoked until they died of apoplexy—the one after smoking seventeen pipes, the other eighteen pipes. Fourcroy cites several instances of the destructive effects of tobacco in his translation of Ramazzani. The little daughter of a tobacco merchant died in frightful convulsions, from having slept in a chamber where a great quantity of tobacco had been rasped. An intoxicated soldier swallowed his saliva impregnated with tobacco, awoke in strong convulsions, and nearly became insane. I have strong suspicions that such a melancholy event as the latter must have occurred frequently.

71. Orfila, in his *General System of Toxicology*, 1817, Vol. II., page 211, quotes the following experiments to show the poisonous qualities of tobacco: "Sir Benjamin Brodie injected into the rectum of several dogs, and one cat, from one to four ounces of a strong infusion of tobacco; these animals became insensible, motionless, and all died in less than ten minutes; the pulsations of the heart were no more sensible a minute before death; one of them only vomited. Their bodies were opened immediately after death; the heart was very much distended, and no longer contracted."

72. Sir B. Brodie states in his *Physiological Researches*, published in 1851, under *Effects of Vegetable Poisons*: "We may conclude from these experiments, that the empyreumatic oil of tobacco occasions death, by destroying the functions of the brain, without directly acting on the circulation. In other words, its effects are similar to those of alcohol, the juice of aconite, and the essential oil of almonds."

73. In volume seventh of the *Biographical Dictionary*, the Rev. Mr. Rose, under the life of Richard Fletcher, Bishop of London, informs us, that "he (the Bishop) was very fond of tobacco, then little known, and that Camden imputes his death to the immoderate use of it." And Camden, in his *Annals*, 3d edition, p. 469, translation, states that "Richard Fletcher, Bishop of London, a courtly prelate, who, while by immoderate use of tobacco he smothered the cares he took by means of his unlucky marriage, and by the Queen disliked (who did not so well like of married bishops), breathed out his life." The Bishop died in 1596.

74. Dr. Cleland, in his treatise on the Properties Chemical and Medical, of Tobacco, states that "the circumstance which induced Amurath the Fourth to be so strict in punishing tobacco smokers, was the dread which he entertained of the population being thereby diminished, from the antiphrodisiac property which he supposed tobacco to possess"—*vide* Cleland on the History and Properties, Chemical and Medical, of Tobacco, p. G. If, as I understand, Amurath is synonymous with Mourad, the antiphrodisiac properties of tobacco must have been a subject of credence and observation so early as the first part of the seventeenth century, the period of the reign of the fourth Amurath or Mourad, extending from 1622 to 1640.

The Counter-blast of King James had considerably preceded the prohibitory punishment against the use of tobacco by the Ottoman Sultan.

75. The injurious properties of tobacco are determined by the following analysis of its chemical constituents by Professor Johnston, of Durham, in his Chemistry of Common Life: "These are three in number: a volatile oil, a volatile alkali, and an empyreumatic oil." . . . . "The volatile oil has the odor of tobacco, and possesses a bitter taste. On the mouth and throat it produces a sensation similar to that caused by tobacco smoke. When applied to the nose, it occasions sneezing, and when taken internally, it gives rise to giddiness, nausea, and an inclination to vomit." "The volatile alkali has the odor of tobacco, an acrid, burning, long-continuing tobacco taste, and possesses narcotic and very poisonous qualities. In this latter respect, it is scarcely inferior to

prussic acid—a single drop being sufficient to kill a dog. Its vapor is so irritating, that it is difficult to breathe in a room in which a single drop has been evaporated. The reader may recollect the great sensation produced in 1851, by the trial of the Comte de Bocarmé, at Mons, and his subsequent execution, for poisoning his brother-in-law with nicotin. A hundred pounds of the dry tobacco-leaf yield about seven pounds of nicotin. In smoking a hundred grains of tobacco, therefore, say a quarter of an ounce, there may be drawn into the mouth *two grains or more of one of the most subtle of all known poisons.* “The empyreumatic oil is acrid and disagreeable to the taste, narcotic, and poisonous. One drop applied to the tongue of a cat brought on convulsions, and in two minutes occasioned death. The Hottentots are said to kill snakes by putting a drop of it on their tongues. Under its influence, the reptiles die as instantaneously as if killed by an electric shock. It appears to act nearly in the same way as prussic acid.”

“The crude oil is supposed to be the juice of the cursed hebenon,” described by Shakspeare as a distilment.

“Sleeping within mine orchard,  
 My custom always of the afternoon,  
 Upon my secure hour thy uncle stole,  
 With juice of cursed hebanon in a vial,  
 And in the porches of mine ear did pour  
 The leperous distillment: whose effect  
 Holds such an enmity with blood of man,  
 That, swift as quicksilver, it courses through  
 The natural gates and alleys of the body;  
 And with a sudden vigour it doth posset  
 And curd, like eager droppings into milk,

The thin and wholesome blood; so did it mine;  
 And a most instant tetter bark'd about,  
 Most lazar-like, with vile and loathsome crust,  
 All my smooth body."

HAMLET — Act i., Scene v.

"The cigar, especially if smoked to the end, discharges directly into the mouth of the smoker everything that is produced by the burning. Thus, the more rapidly the leaf burns and the smoke is inhaled, the greater the proportion of the poisonous substances which is drawn into the mouth. And finally, when the saliva is retained, the fullest effect of all the three narcotic ingredients of the smoke will be produced upon the nervous system of the smoker. It is not surprising, therefore, that those who have been accustomed to smoke cigars, especially of strong tobacco, should find any other pipe both tame and tasteless, except the short black *cutty*, which has lately come into favor among inveterate smokers. Such persons live in an almost constant state of narcotism or narcotic drunkenness, which must ultimately affect the health even of the strongest.

"The chewer of tobacco, it will be understood from the above description, does not experience the effects of the poisonous oil which is produced during the burning of the leaf. The natural volatile oil and the nicotin are the substances which act upon him. These, from the quantity of them which he involuntarily swallows or absorbs, impair his appetite, and gradually weaken his powers of digestion.

"The same remarks apply to the taker of snuff. But his drug is still milder than that of the chewer. During

the first fermentation which the leaf undergoes in preparing it for the manufacturer of snuff, and again during the second fermentation, after it is ground, a large proportion of the nicotin escapes, or is decomposed. The ammonia produced during these fermentations is partly the result of this decomposition. Further, the artificial drying or roasting to which tobacco is exposed in fitting it for the dry snuffs, expels a portion of the natural volatile oil, as well as an additional portion of the natural volatile alkali or nicotin. Manufactured snuff, therefore, as it is drawn up into the nose, and especially dried snuff, is much less rich in active ingredients than the natural leaf. Even the rappees, though generally made from the strongest Virginian and European tobaccoes, containing five or six per cent. of nicotin, retain only two per cent. when fully manufactured."

76. The following extracts are from King James's "Counterblast to Tobacco," pp. 213-222 — a work from its rarity inaccessible to the general reader, and which may be considered not uninteresting by many, considering the character of the royal author, and the early period at which his remarks were published, nearly two centuries and a half ago :

"In my opinion," says the royal commentator, "there cannot be a more base and yet more hurtful corruption in a country, than is the vile use (or rather abuse) of taking tobacco in this kingdom, which hath moved me shortly to discover the abuses thereof in the following little pamphlet." In the Counterblast to Tobacco, he remarks : "That the manifold abuses of this vile custom of Tobacco-taking may the better be espied, it is fit,

that you first enter into consideration, both of the first originall thereof, and likewise of the reasons of the first entry thereof into this country. For certainly, as such customs that have their first institution, either from a godly, necessary, or honourable ground, and are first brought in by the means of some worthy, vertuous, and great personage, are ever and most justly holden in great and reverend estimation and account, by all wise, virtuous, and temperate spirits, so should it by the contrary, justly bring a disgrace into that sort of customs, which having their originall from base corruption and barbarity, do in like sort make their first entry into a country, by an inconsiderate and childish affectation of novelty, as is the true case of the first invention of Tobacco-taking, and of the first entry thereof among us. For Tobacco was first found out by some of the barbarous Indians."

"Tobacco is, as you use or rather abuse it, a branch of the sin of drunkenness, which is the root of all sins." "To take a custom in anything that cannot be left again, is most harmful to the people of any land. *Mollicies* and delicacy were the wreck and overthrow, first of the Persian and next of the Roman empire. And this very custom of taking Tobacco is even at this day accounted so effeminate among the Indians themselves, as in the market they will offer no price for a slave to be sold, whom they find to be a great tobacco-taker."

"Is it not a great vanity, that a man cannot heartily welcome his friend now, but straight they must be in hand with tobacco; no, it is become in place of a cure, a point of good fellowship, and he that will refuse to take

a pipe of tobacco among his fellows (though by his own election he would rather feel the savour of a sinke), is accounted peevish and no good company, even as they do with tipping in the cold eastern countries. Yea, the mistress cannot in a more mannerly kind entertain her servant, than by giving her, out of her fair hand, a pipe of tobacco.”

“Moreover, which is a great iniquity and against all humanity, the husband shall not be ashamed to reduce thereby his delicate, wholesome, and clean-complexioned wife to that extremity, that either she must also corrupt her sweet breath therewith, or else resolve to live in a perpetual stinking torment.”

He concludes thus in reference to smoking: “Have you not reason then to be ashamed, and to forbear this filthy novelty, so basely grounded, so foolishly received, and so grossly mistaken, in the right use thereof.” “A custom loathsome to the eye, hateful to the nose, harmful to the brain, dangerous to the lungs, and in the black, stinking fume thereof, nearest resembling the horrible Stygian smoke of the pit that is bottomless.”

*Vide* “Workes of the Most High and Mightie Prince James, by the grace of God, King of Great Britain,” &c., 1616.

77. The following extract is from an able article on the United States, which appeared in the London *Spectator* of July 5th, 1856:

“We have been long familiar with the fact, that the manners and social habits of Americans are not to our taste, and that few persons who could obtain a respectable maintenance in Europe, would find the change to

the United States a change for the better. . . . .  
It is in startling contrast with our ordinary train of thought about the United States, to hear it even whispered as a possibility, that the race of men which inhabit the country is undergoing a process of physical and moral degeneracy; that the symptoms we have been accustomed to consider as evidences of growth are really proofs of decay; that the people are, like medlars, rotten before they are ripe; and that a premature senility is the true characteristic of the great Anglo-Celtic Republic of the West. That such a theory should have been started, gives one a shock, which does not pass off when the facts upon which it professes to rest are calmly considered. It is said, for instance, that the bulk of Americans live thoroughly unwholesome lives; consuming inordinate quantities of spirituous liquors from youth upward, and at all hours of the day *smoking and chewing tobacco to excess*, eating greedily, and giving themselves no time to digest their food, always in a bustle and excitement, enjoying neither quiet nor rational recreation, nor domestic peace. And how few Americans has any Englishman known of whom he could say, that they were genial or happy! *what an anxious, nervous, haggard expression of face, is that by which we instinctively recognize a Yankee everywhere!* how completely the manner, and countenance, and figure of the typical Yankee answer to this account of the usual life of the people! . . . . . What if the bad habits of men and women, acting with a climate that tends to exhaust vitality, should really in a few generations have produced a palpable inferiority of physique? The positive asser-

tion of this degeneration would indeed be most unphilosophical, on a basis of facts such as are patent to common observation; but that these facts are patent, is sufficient to excite the alarm and sharpen the self-watchfulness of all classes of Americans, who can look forward to the tremendous consequences of a degradation of the national nerve and muscle, through intemperance and *bad habits* of living. . . . The fashionable classes of American society are more notorious for their luxury than for their refinement or ambition."

78. I am given to understand that there exists a rule among a large and influential religious sect, when a student presents himself as a candidate for examination for ordination, which compels him to answer, Whether he smokes tobacco, or uses it in any form? If he confesses he does so, he is remitted to his studies until he gives it up, and can aver that he has "thrown away tobacco for ever."

79. The great Wesley, I believe, first suggested the rule, which still obtains, that no minister connected with the Wesleyan body should use snuff or tobacco, unless prescribed by a physician.

80. Adam Clarke, LL. D., a Methodist divine, published in 1837, among his detached pieces, a dissertation on "the Use and Abuse of Tobacco." It is unnecessary for me to enter at present into a formal criticism of his treatise, but in referring to such authority in support of my views, I may be permitted to quote the following case. At page 29, he says: "A person of my acquaintance, who had been an immoderate snuff-taker for up-

wards of forty years, was frequently afflicted with a sudden suppression of breathing, occasioned by a paralytic state of the muscles which serve for respiration. These affections grew more and more alarming, and seriously threatened her life. 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 worship, without having a small vessel of water with her, and a friend to administer it. At last she left off snuff; the muscles re-acquired their proper tone, and, in a short time after, she was entirely cured of a disorder, occasioned solely by her attachment to the snuff-box, and to which she had nearly fallen a victim."

81. Anton, in his interesting "Retrospect of a Military Life," relates the death of one of the sergeants of the 42d Regiment from smoking tobacco, which apparently had induced apoplexy. See page 154. On conversing with Mr. Anton, he states that the sergeant was an excessive smoker of the weed.

82. The Paris correspondent of the *New Orleans Picayune*, in recording the death of the poet Berat, says: "Berat was not forty-five years old. He, too, was slain by that disease which is so fell a destroyer to our contemporaries, and especially to Frenchmen—the softening of the spinal marrow. Trousseau attributes to the excessive use of tobacco the fatal effects on the nervous system. Roger Collard, who died in the dawn of a most brilliant career, some three years ago, of this terrible disease, attributed his untimely end to his cigar. Count D'Orsay was another victim of this disease, and

his death made a profound impression on the Emperor, who at once sent his physician, Bretonneau, to whom the Count complained of fatigue in all his members—of enervation. Dr. Bretonneau replied, ‘You surely smoke some twelve or fifteen cigars a-day. Smoke less. Abstain, if you can, altogether from smoking, and you will end these symptoms of weakness and enervation.’”

83. In the able Clinical Lecture of Mr. Solly, Surgeon of St. Thomas’s Hospital, on Paralysis, there occurs the following statement:

“There was another habit, also, in which my patient indulged, and which I cannot but regard as the curse of the present age—I mean smoking. Now, don’t be frightened, my young friends, I am not going to give a sermon against smoking—that is not my business; but it is my business to point out to you all the various and insidious causes of general paralysis, and smoking is one of them. *I know of no single vice which does so much harm as smoking.* It is a *snare and a delusion.* It soothes the excited nervous system at the time, to render it *more irritable and more feeble ultimately.* It is like opium in that respect; and if you want to know all the wretchedness which this drug can produce, you should read the ‘Confessions of an Opium-eater.’ I can always distinguish by his complexion a man who smokes much; and the appearance which the fauces present, is an unerring guide to the habits of such a man. I believe that *cases of general paralysis* are more frequent in England than they used to be, and I suspect that smoking tobacco is *one of the causes of that increase.*”  
— *Vide Lancet for 13th December, 1856, page 641.*

84. I lately visited a gentleman in a Lunatic Asylum, laboring under general paralysis, and his mind becoming idiotical. On corresponding with his former medical attendant, I understand his habits were, that he lived temperately as regarded drink, but worked hard in a mercantile house, and smoked to excess; the phrase he makes use of is—that “he blazed away at a fearful rate.”

85. In Dr. William Henderson’s work on “Plain Rules for Improving Health,” second edition, pages 87, 88, 89, and 261, there are cases of dyspepsia, palpitation of the heart, of *insanity*, etc. produced by using tobacco. One gentleman, “from having been one of the most healthy and FEARLESS men, became one of the most timid. He could not present a petition, much less say a word concerning it, though he was a practising lawyer. He was afraid to be left alone at night.”

In the cases of insanity mentioned by him, the patients “had used tobacco to excess, though perfectly temperate otherwise, as regarded drink.”

The reader is referred to pages 18 and 52, for further information on mania.

86. In the *Lancet* for 3d January, 1857, Mr. Fenn thus describes the result of his investigations on the effects of tobacco:

“Tobacco,” says he, “has the effect of relaxing the skin and mucous membranes, causing the latter to pour out their secretions more freely, and to shed the epithelium more rapidly; at the same time, the sensibility of the nervous system is greatly depressed, and the vital force diminished. On account of its softening and re-

laxing effect upon the mucous membrane of the bowels, it is greatly resorted to in habitual constipation. But it will be seen that this weakening influence is exerted upon the organ liable to be most seriously affected in typhoid fever, and very frequently is the predisposing cause of the uncontrollable diarrhœa and hæmorrhage which occur in such cases. *I have seen very mild cases of typhoid fever rendered fatal, from the excessive use of tobacco, either from diarrhœa or peritonitis, the result of perforation.* Now perforation scarcely ever occurs until the patient is moribund, and the body semi-putrid; but *the immoderate use of tobacco will predispose to perforation under very different circumstances.* For instance, a gentleman in my practice had progressed very favorably to the fifteenth day of typhoid fever: the diarrhœa was very moderate, and the symptoms altogether so mild as to call for a purely expectant treatment, nourishment, with very little stimulant, sufficing to keep the patient in a very fair condition from day to day. On the fifteenth day his bowels were relaxed at 6 in the morning; at 5 P. M. he got out to have his bed made, and as his bowels had not moved since 6 A. M., he thought it might save getting out again if he could evacuate them at the same time; for this purpose he made a straining effort, and almost instantly felt something give way; a violent pain ran rapidly across the region of the bladder, and soon diffused itself over the whole abdomen; tympany occurred within an hour, and *in twenty-four hours he died from peritonitis, the result of perforation of the small intestine.* *A milder case than this I never saw, but the patient was accustomed to smoke ten or twelve*

*cigars daily.* I could quote other cases almost parallel, *where the immoderate use of tobacco destroyed all the chances of recovery, in otherwise favorable or merely doubtful cases of typhoid.*" How many of our brave soldiers must have died at Varna, Burmah, and other localities, where diarrhœa, dysentery, and cholera were epidemic, and where tobacco was consumed immoderately! I should imagine that the greater number of those who died suddenly, and in agony, must have had perforated intestine.

The reader is referred to page 53, Prout's experience, which in a measure confirms this.

87. Dr. B——, an experienced physician, has kindly communicated the following interesting and satisfactory case of a near relative, who fell a victim to tobacco smoking, which produced cancerous ulceration of the tongue; also a graphic delineation of the disease.

Mr. A., a gentleman about fifty-eight years of age, of a strong wiry frame and healthy constitution, none of whose relations had ever had a cancerous affection, was observed, in 1831, to articulate with difficulty—his tongue being too large for his mouth. On being interrogated by a medical friend, a relation of his own, he acknowledged that he was a devoted victim to the weed. His tongue at this time was enlarged, firm, and coated with a white crust, somewhat resembling the confectionery named *kisses*. There was a sulcus in the centre of the tongue, with a bright red line at the base. The sore was washed with a solution of the chlorate of soda, before this sketch was taken. His medical attendant, to induce him to give up smoking, informed him that

the disease of his tongue would kill him; so that he at once "threw away tobacco forever."

From this time the disease progressively got worse. In May, 1833, the patient, accompanied by his medical relation, visited London, and consulted Sir Astley Cooper, when the patient put the following question to Sir Astley: "Had I come early enough, could I have been cured?"—to which Sir Astley replied: "Sir, there never was a time early enough to have warranted an operation: every fibre, every papilla of your tongue is diseased; and it would have been merciful to have clapped a pistol to your head, the instant the disease began." Sir Astley prescribed for him, but to no purpose, as the disease increased with a rapidity inconceivable; for by the end of June, the anterior portion had mouldered away (so graphically described by his medical attendant); the tongue being previously cleansed by the chlorate of soda, in doing which the fœtor was intolerable. He now suffered acute pain, and was obliged to take morphia every night. His pulse was from 120 to 160. In July, his spirits began to be dreadfully depressed, accompanied with pains in his head, and he at this time remained chiefly in bed.

By the 24th, the ulceration had extended to the fauces, and the glands at the angle of the lower jaw bone became swollen. Deglutition was now difficult and painful, and his strength began to fail—but still no hæmorrhage.

By the middle of August, the tongue had *mouldered* away—the stump presenting an irregular, lumpy surface, covered with a flocculent, dirty, greenish-white

deposit, and the ulceration extending on the left side to the os hyoides, accompanied with a most offensive discharge. There was a spasmodic difficulty in swallowing, a troublesome cough, with difficult expectoration, great mental depression, and hallucination of mind.

On the 25th of this month, for the first time, an oozing of arterial blood took place, but not to any extent. His pulse was 130, and very weak—some aberration of mind. Cough very incessant during the night, and he appeared in great agony.

In the beginning of September he became very weak, so that he was confined to bed, passing restless nights, with profuse perspirations: His mind much affected, breathing very difficult, with constant expectoration of viscid phlegm mixed with blood. When he attempted to swallow fluids, they were returned by the nostrils. The dressing the extensively-ulcerated surface caused severe pain, and the fœtor was excessively offensive. The sub-maxillary glands were now greatly enlarged. Pulse generally above 120.

By the 25th September, the whole of the uvula, velum, and tonsils were destroyed by the ulceration. The glands at the angle of the lower jaw larger and more painful. He was then unable to swallow, and hence could take no nourishment.

From this to the 2d October, all his symptoms became aggravated, the salivation more profuse, the perspirations more abundant, and the difficulty of breathing insupportable; and after three hours of intense suffering he expired. "All the death-bed scenes and death-bed sufferings I had ever witnessed," says his medical

friend, "were comparatively easy, to the individual agonies and gaspings for breath this kind and amiable man was destined to endure." His medical friend adds: "The disease is novel and unique to me" — "it has differed in its appearance and progress from any and every disease of the tongue that I have ever seen or read of."

Professor Bennet, in his microscopic examination of a section of the late D. R.'s tongue, goes to corroborate the above view.

Query—If the ulceration differs from carcinoma, a smoker runs the risk of two diseases, viz., carcinomatous sarcoma, and carcinomatous nicotianum?

A case precisely similar to Mr. A.'s, I have received from my friend Dr. Tod, of Gilmore Place.

88. A middle-aged woman, an inveterate smoker, was alarmed at seeing a small warty-looking growth in the centre of her tongue, which frequently gave her a stinging pain, and which she requested a neighbor to look at. She continued to smoke her pipe, never dreaming that the tobacco was the cause of her sufferings, until the excrescence began to ulcerate, which it did rapidly, and extended to the root of her tongue, destroying the anterior portion by sloughing, and ultimately destroying life in twelve months.

89. J. T——, ætatis 46, consulted Dr. Tod, of Gilmore Place, in the middle of January, 1856, regarding a slight swelling on the right side of his tongue, which was attributed partly to decayed teeth, and partly to smoking tobacco. He consumed two ounces weekly with a pipe. His wife states, that whenever any thing agi-

tated him, he flew to the pipe, and smoked until he trembled nervously. He "threw away tobacco forever." As three of the contiguous teeth were decayed, with ragged edges, they were immediately extracted, but without any benefit. In a short time, a fissure took place at the swollen point, which increasing, I was consulted, and, after a careful examination, it was pronounced cancerous, and recommended to be treated by ligature. On the 14th July, 1856, ligatures were passed from under the tongue to its upper surface, so as to include all the disease; but on the fifth day, such smart hæmorrhage took place from the central ligature, that they required to be removed, and the actual cautery applied. The cautery was repeated very often in consequence of the bleeding occurring. [The manner of applying ligatures to the tongue, when affected with cancer, is delineated in Fig. 4 of Plate XXXVIII. of my Practical Surgery, 2d edition, and described at page 305 of the same work.]

In September following, the glands at the angle of the jaw became swollen, and threatened suffocation. The ulceration spread rapidly, involving the right half of the tongue. At this time he was sadly tormented with profuse salivation, and fœtor of breath. His pulse from first to last has never been under 100, but often above.

Towards the end of October, fearful hæmorrhage took place, requiring Dr. Tod to sit up all the night of the 27th, applying one actual cautery at a black heat after another. Next day his tongue was swollen as if he had been severely salivated with mercury, the point pro-

jecting an inch or two beyond the lips and teeth, and very turgid.

3d November.—Tongue still tremendously swollen and pallid, causing perpetual exudation of the saliva, and preventing him swallowing. He is now much emaciated, and the pulse never under 110. The glands at the back of the tongue and neck are much increased in size.

10th November.—His tongue now projects beyond his teeth fully two inches, and he cannot retract it. The teeth are beginning to indent themselves in the soft tongue, and threaten to cut it in two. His existence is now kept up, more by nutrient enemata, than by nourishment from the mouth, the difficulty of swallowing is so distressing.

19th.—Dr. Tod nipped, with the bone pliers, the upper teeth parallel with the gum, which gave him some relief.

3d December.—His face has a hideous appearance, from the protruded swollen tongue, which is daily becoming more detached by the ulceration extending across, and from the enormously swollen glands of the neck. He is unable to swallow any quantity, and is therefore still nourished by enemata. In the night time, his breathing is so laborious, that it can be heard in the adjoining room. Smell of tongue still very offensive.

22d.—At his solicitation we have this day put a ligature in the fossa, between the root and the projecting portion of the tongue, to facilitate the separation of the latter. While tightening the ligature, a point of the

surface of the projected part bled a little, but soon stopped. We punctured the tumor below his chin, as it pointed, and the skin threatened to inflame and ulcerate. Strumous-looking matter, whey-colored, with flakes of lymph, flowed.

1st January, 1857.—Whenever the ligature is tightened, it threatens to bleed. He is now fearfully emaciated, pulse hardly perceptible, and he is delirious during the night. Bleeding occurs from time to time to the extent of an ounce or so, but is easily checked.

4th.—For the last four days, life has been ebbing apace, but fortunately no pain of any consequence. He expired at 3 o'clock, P. M. He died more from inanition than any other cause.

90. Upon investigation, I find that the late Dr. R—— fell a victim to the smoking of tobacco, and hence I give a brief description of his case, which has already been published, but with no reference to the cause—tobacco. I had myself often seen him smoking, and on inquiry at his nearest relatives', I understand that he was devoted to the custom. One of his relatives states, that he smoked till within two months of his death; and his biographer writes, that "in the evening he obtained temporary relief from a cigar." Now, unless Dr. R—— had been accustomed to the pernicious weed, he never would have been able, with an ulcerated tongue, to smoke a cigar.

His biographer thus writes: "In the month of November, 1847, a small blister appeared on his tongue, which before long opened into an ulcer, betraying the symptoms of cancer—a disease which, in spite of the advancement of medicine, is still almost synonymous

with protracted, unappeasable torture, and painful, lingering death."

In May, 1848, he consulted the surgical staff of London, from Sir Benjamin Brodie downwards, who tried to dissuade him from an operation; so that he returned to Scotland.

In July, 1848, the ulcerated surface was the size of a five-shilling piece, and soon afterwards a lymphatic gland appeared enlarged on the right side of his neck. On the last day of August, 1848, he prevailed on a dexterous operator to excise it, which was accordingly done most scientifically. In a week, trifling bleeding supervened.

Professor Bennet, of this University, a most profound physiologist, examined the excised portion of the tongue, and thus remarks:

"I took the utmost pains to make out all the facts connected with the structure of this lesion; and it will be seen, on comparing the figures representing it with those illustrating the formation of cancerous growths, that they differ materially. In this, as in most other cases of epithelial ulceration, the disease commenced at the surface, producing increased formation of epithelial cells, and great thickening and induration by their condensation. A true cancer always commences below the epithelium, in the form of a white deposit, which soon appears as a nodule, and by its pressure subsequently causes ulceration through the mucous coat. A thin slice of the hardened schirrus-looking matter presented a very different appearance from that observed in similar slices removed from cancerous growths, and exhibiting nothing

but epithelial scales, more or less condensed and pressed together."

In November, 1848, the submaxillary glands enlarged, and were excised. These, when carefully examined, exhibited the same epithelial form of morbid growth as affects the tongue or face.

On the 16th July, 1849, bleeding took place, and again on the 18th, violent hæmorrhage occurred, followed by great exhaustion. For several days no food or drink was taken. Every function but breathing seemed suspended. When sensitiveness to all else appeared extinct, the consciousness of agony returned; and before the final close, which took place on the 30th of that month, the suffering, but for chloroform, would have been extreme.

Here I may remark, that it seems as malignant and as painful a disease as exists; so that, to the sufferer, it is immaterial whether it is cancrioid or carcinomatous.

Dr. R—— is described by his biographer as enjoying health in its fullest measure when attacked—"that he had a robust body, great physical strength, a sanguine temperament, a vigorous intellect, a happy temper, and a resolute, courageous spirit."

91. A merchant in Dublin lately fell a victim to cancer of the tongue, produced by smoking. A friend, whose authority is undoubted, visited him a few days before his death; but the picture was so appalling that he could not make up his mind to see him again. He was sitting surrounded by an amiable family, writhing in agony, and unable to speak or swallow, from his tongue having *mouldered* away. He was reduced nine stone in

a few months. I wrote his ordinary medical attendant to furnish me with a narrative of his case, which I have not yet obtained.

92. From the cases I have recorded, I may presume that a person with a cancerous diathesis, or predisposition or constitution, smoking a cutty pipe, must be liable to communicate the disease to another who might take up the same pipe.

93. In the syphilitic constitution, the mucous membrane of the mouth is very prone to excitement and ulceration; and if the latter is produced by smoking tobacco, the ulceration, in nine cases out of ten, will degenerate into cancerous or canceroid ulceration, and prove fatal, after lingering and cruel sufferings.

94. Since I commenced the investigation of cancer of the tongue, I have been led to consider the structure of the tongue. 1st. Can the papillæ be the termination of the nerves of sensation—the glosso-pharyngeal and the gustatory branches of the inferior maxillary nerves? 2dly. Do these nerves of sensation terminate in pulpy matter, like the other nerves of sensation? Thus, the olfactory nerves spread like pulp on the mucous membrane of the nares, after passing through the cribriform plate of the ethmoid bone; the optic nerve becomes the retina, after piercing the sclerotic coat of the eye; the auditory is distributed on the labyrinth of the ear, viz. the cochlea, vestibule, and three semi-circular canals. The nerves of the fingers form the pacinian bodies.

Reasoning from analogy, therefore, that four of the senses—smelling, seeing, hearing, and touching—are supplied with nerves which terminate in pulpy expanse,

it seems consistent to expect to find the same arrangement or distribution in the nerves of tasting. In Kölliker's able work on human histology, he describes the various tissues of the tongue as being very minute and delicate; but he says: "I have been unable to make out, with certainty, how the nerves terminate; yet everything appeared to indicate the existence of loops—not, however, in the simple papillæ, but at their base." Kölliker quotes "Remark," who states that "the terminal branches of the glosso-pharyngeal and gustatory nerves form a very dense plexus before entering the papillæ." The largest animals examined were the calf and sheep. It would appear necessary to examine the tongues of the horse and elephant, and the foetal tongue, like the foetal brain, according to Tiedemann.

From the delicate texture of the tongue, must arise the difficulty of arresting disease in it, especially malignant ulceration, and when the constitution is poisoned with tobacco, for then it seems to spread from the one end to the other with electric rapidity.

95. Since the publication of the preceding observations by Sir A. Cooper, Professor Syme has excised the entire tongue in two cases, both of which were followed by pyæmia and death. One would have thought, that the frequency of so fatal an affection as pyæmia supervening on the perineal section, would have made any surgeon acquainted with pathology, pause, before excising the tongue, which is equally vascular as the corpus spongiosum urethræ, and much nearer the lungs, wherein pyæmia develops itself. But as John Bell says, "Operations have come at last to represent the whole science."

Such seems to be the case in the opinion at least of the so-called "First Surgeon in Europe."

96. The best marked case of pyæmia is that of Cree, occurring from the perineal section, which is detailed in my Practical Observations on the Treatment of Stricture of the Urethra. Professor Syme must have preserved in his note-book a few similarly fatal cases. From these two instances of pyæmia supervening to excision of the tongue, and those following the perineal section, it is evident how pyæmia occurs so often after wounds in vascular tissues, especially veins — inflammation is first set up, and suppuration rapidly following, the pus becomes absorbed by the veins, acts as a poison in the circulating system, and hence proves rapidly fatal. For a full detail of the first case, the reader is referred to two unanswerable letters by Dr. John Renton, in the Medical Times and Gazette for the 20th February and 13th March, 1858. The two patients, more especially the second, Richard Ratcliff, are stated to have been great smokers of tobacco.

97. The following is an interesting case of amaurosis, or blindness, from smoking tobacco:— J. W., a coach-builder, upwards of fifty years of age, had smoked for thirty years, generally two ounces of tobacco a week, when he became so blind as to be unable to work, or even walk through a crowded street. He applied to an eye dispensary, where the medical man, who is considered a good oculist, told him that he labored under amaurosis, and prescribed accordingly. After following his treatment for some time, and finding himself no better, he visited a neighboring city, and consulted an-

other oculist, who instantly detected tobacco to be the cause of his blindness, as if the obnoxious stench of the weed had led him at once to this conclusion. J. W. instantly "threw away tobacco for ever," visited a relative in the Highlands, where in a short time his vision gradually returned, became clear, and enabled him to return to his business quite cured. It is now six years since he recovered, and he now can read a small printed book without glasses. He says his health is much improved since he gave up the pernicious weed.

98. This case is important, as it explains how tobacco affects us. If tobacco smoking produces such serious effects on the nerves of the eyes, so as to cause blindness, why may it not produce paralysis of any of the other nerves, as those of the arms, legs, and indeed of every other organ. (See page 34.)

99. It would appear that the nerves of the mouth and nostrils are first affected — then the brain — thirdly, the nerves of the eyes — and lastly, the whole nervous system. At the same time, the poison, being mixed and swallowed with the saliva, must be absorbed by the lymphatics of the stomach and intestines, and be thus circulated with the blood, and again act on the nervous system like strychnine.

100. I was consulted by a captain of dragoons, affected with amaurosis, consequent on smoking tobacco, for which he was compelled to sell his commission, after being several years in the army, and only forty years of age. I could not convince him that his smoking tobacco was the cause of his blindness, and I suppose that he continues blind to this date.

101. In a recent correspondence with Mr. Anton, he thus states: "I am convinced that a soldier, who is an *inveterate* smoker, is incapable to level his musket with precision, and without shaking his hand, so as to take a steady aim at the object he is desirous to hit." . . . "Your remarks," says he, "bring back to my recollection many instances of that nervous trepidation, which rendered many a brave man useless as a marksman or musqueteer."

102. The British soldiers, says Mr. O'Flaherty, had no tobacco at the battles of Alma, Balaklava, or Inkermann, while the Russians had too much, both of tobacco and raki; and that he never saw stronger men or more noble soldiers than the Russians.

He also says that he has known men, who, previous to their using tobacco, were the finest marksmen, and could send a bullet through the target at 800 yards distance; but who, after they had commenced to smoke and chew tobacco, became so nervous that they could scarcely send a bullet into a haystack at 100 yards distance. In this statement, O'Flaherty is confirmed by a soldier of the Scots Fusilier Guards.

103. Here I may remark, that surgeons, especially operating surgeons, who smoke tobacco, cannot have the same cool head and hand, as he who never uses the weed. The late Mr. Liston never smoked. Before performing any important operation, he took a gallop over the Pentland Hills to brace his nerves.

104. Dr. M'Cosh, once a professor in the Calcutta Medical College, who had much experience in the East Indies, having served in the Bengal Medical Staff in

four campaigns and nine general actions, and experienced all the vicissitudes of an Indian climate, from the snowy mountains of the Khyber to the tepid marshes of Burmah, makes the following valuable observations in his "Advice to Officers in India":

"Tobacco smoking," says he, "is a very common habit; so much so, that two-thirds of the European population indulge in it; nor is the vice contracted in India only. A large proportion of cadets acquire the habit in England, and are not a little proud of their accomplishment. Young men think it manly to blow as big a cloud as their commanding officer. Their breath not only smells of an old pipe, but every thing that comes out of their house — a book, a newspaper, or a letter — does the same; so that the perusal, by any one not seasoned to such fumes, is sickening; and to ladies, disgusting. The very difficulty of learning to smoke, the headache, and nausea, and vertigo, with which that is acquired, are enough to show that the habit is most injurious; only made endurable by long habit, and persevered in from want of some more congenial occupation. Habitual smoking, too, often leads to habitual drinking; the drain upon the system must be replenished, and brandy and water is the succedaneum. Some pretend to gainsay this, and maintain that they do not spit; but this only shows the torpor of the salivary glands; for, if they were in a healthy state, saliva would be as copious as when they were learning the habit.

105. Some smoke from medicinal motives, and to produce a laxative effect, or from absurd notions that it neutralizes malaria; but these same persons would

grumble loudly at being obliged to take a pill every evening to produce the same effect. If a general order were issued, rendering smoking compulsory, how the fathers of youthful heroes would protest against so very expensive a habit being imposed upon their sons; what an outcry there would be amongst the married ladies for having such an intolerable nuisance forced upon their domestic economy! How the surgeons would be persecuted with applications for certificates, recommending exemption from the rule, on the score of their constitutions being too delicate to admit of smoking being practised with impunity. Strange infatuation! Great smokers blow away money enough during their career in India to purchase them a moderate annuity; they waste more good health than their pensions can redeem; and shorten the period of their lives several years by this filthy habit."

106. The following are the sentiments of the great Camden:—

Camden, in his *Annals rer. Anglicar*, page 415, thus expresses himself on the smoking of tobacco: "In consequence of this use of it, the bodies of Englishmen, who are so highly delighted with this plant (tobacco), seem to have degenerated into the nature of the *barbarians*, seeing that they are delighted with the same thing which the barbarians use."

107. The following extract, from the leading article of the *Lancet* of April 4, 1857, contains a brief and conclusive summing up of the evidence adduced by the numerous correspondents of that journal on the tobacco controversy, as to the injurious effects of excessive

smoking; and I have annexed, in a continued series, excerpts from the several papers which appeared in that journal, being convinced that the *audi alteram partem* is the only legitimate mode of dealing with the question:

“It is almost unnecessary to make a separate inquiry into the pathological conditions which follow upon excessive smoking. Abundant evidence has been adduced in the correspondence in our columns, of the gigantic evils which attend the use of tobacco. Let it be granted at once, that there is such a thing as *moderate* smoking, and let it be admitted that we cannot accuse tobacco of being guilty of the whole of CULLEN’S ‘Nosology,’ it still remains that there is a long catalogue of frightful penalties attached to its abuse.

“Let us briefly recapitulate—

“1. To smoke *early in the day* is *excess*.

“2. As people are generally constituted, to smoke more than one or two pipes of tobacco, or one or two cigars daily, is *excess*.

“3. Youthful indulgence in smoking is *excess*.

“4. There are physiological indications, which, occurring in any individual case, are criteria of *excess*.

“We most earnestly desire to see the habit of smoking diminish, and we entreat the youth of this country to abandon it altogether. Let them lay our advice to heart. Let them give up a dubious pleasure for a certain good. Ten years hence we shall receive their thanks.”

108. The subjoined extract is taken from a second

communication on the tobacco question, by Mr. Solly, in *The Lancet* of February 14th, 1857:

“The more I think of the tobacco question the more it haunts me. I feel that I cannot do justice to its importance, but I am anxious to add something to my last communication. Every day the subject is forced upon my mind. I scarcely meet a friend or patient who does not bear his testimony to the mischief of which he has been the witness, in his own case or that of some friend, from tobacco.

“The profession have no idea of the ignorance of the public regarding the nature of tobacco. Even intelligent, well-educated men, stare in astonishment, when you tell them that tobacco is one of the most powerful poisons we possess. Now, is this right? Has the medical profession done its duty? Ought we not, as a body, to have told the public that, of all our poisons, it is the most insidious, uncertain, and, in full doses, the most deadly. Why should they not know at once how often it has proved fatal in the human subject, when injected into the rectum in strangulated hernia. I heard, only the other day, that a celebrated surgeon — rather an obstinate one — since dead, lost five cases in succession from the effect of tobacco injected into the bowels.

“It seems almost trifling with the subject, and yet the extreme ignorance which prevails regarding this frightful pest, rendering even trifles weighty in the scale, induces me to remind all smokers, and those of our brethren who madly encourage it, that the first effect of a cigar on any one, demonstrates that tobacco can

poison by its smoke, and through the lungs, just as certainly as through the bowels.

“It is true, that the all-perfect laws of Nature point out to careless man, that he is taking in a poison, and by the sickness, headache, and vomiting which follow, stop for the time the poisonous dose, and avert the fatal end.

“Look at the pale face, imperfect development, and deficient muscular power of the inhabitants of unhealthy malarious districts. They live on, but with only half the proper attributes of life. So it is with the habitual smoker: his system is accustomed to the poison; and so the opium-eater can take an ounce of laudanum for his morning’s dram, and feel it not, when the eighth part of it would be fatal to the uninitiated.

“What a blessing it would have been to mankind, if all men had shrunk from this plague of the brain, as did the first Napoleon. One inhalation was enough. In disgust he exclaimed, ‘Oh, the swine! My stomach turns. It is a habit only fit to amuse sluggards.’

“It is not, however, to be denied, that when the first poisonous effect has passed off, and the system begins to tolerate it, that tobacco acts as a slight stimulant to many organs. First to the brain, like wine and spirits in small quantities, or inflammation in its very earliest and very transitory stage, it excites to an unnatural degree the natural function of the part. I once knew a young clergyman, who could only write his sermons under the stimulus of tobacco, and there is no question that these discourses were brilliant, eloquent, and most

interesting to listen to; but the end of that man is not yet come.

“In the same way, tobacco is a stimulus to the generative system; but the stimulating effect is much earlier followed by its depressing action; consequently it has long been known, when used immoderately, to extinguish the sexual appetite, and annihilate the reproductive faculty. It is a prolific source of spermatorrhœa. During one week lately, I was consulted by three young men suffering from seminal weakness, in all of whom I could trace this drain to the relaxing, enervating effect of smoking. Happy would it be for them if the abandonment of the vice would at once restore them to health; but no! the evil remains, though the cause is removed—I do not mean remains permanently, because all such cases are ultimately, though sometimes slowly, curable. These three cases are merely a few out of many I have seen of late years.

“I have been asked to produce *facts* in proof of the deleterious effects of tobacco, and facts in abundance shall be forthcoming when I have had a record kept of its effects in my hospital cases; but the facts which I have now by me being private cases, contain details the relation of which would involve a breach of confidence which nothing would justify. No man likes to be held up as a victim of tobacco smoke, though I could name many whose health has been decidedly injured by it. I have seen many cases of amaurosis, both in the incipient and advanced stage, caused by smoking.

“I know a valued servant, in a family where I attend, whose memory was failing him, his face getting yellow,

and his hand shaking; so that those who did not know him attributed his condition to drinking. He abandoned smoking, and in two years was an altered man.

“For above ten years I smoked occasionally; and I am well acquainted with all the soothing, calming, and, for the time, agreeable effect of a cigar, or even short pipe. I left it entirely off about nine years since. This I did, because I believed it impaired my nervous energy; and I have every reason to be satisfied with the change. Since that time my attention has been uninterruptedly directed to the question—Is tobacco smoking positively injurious? The conclusion, therefore, which I have briefly given to the world through your pages, has not been hastily or capriciously formed on a few isolated facts. For the last twenty years I have been the medical examiner of various insurance offices—the Royal Exchange, the Victoria, the Crown, and New Equitable. The two former I still hold. In my examinations, I inquire whether the examinees are in the habit of smoking; and I can now generally tell by the countenance whether they are or not habitual smokers. If I have any doubt on this point, an examination of the fauces decides it. The fauces of the smoker are always more or less injected and rough, presenting the appearance of a piece of dirty red velvet, instead of the pale, pinkish, lilac hue of a healthy throat. The tongue, when smoking is not combined with drinking spirits, as is seldom the case in the upper and middle classes, is usually furred and white, but not otherwise unhealthy.\* This condition of the

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\* The author has had a representation made, illustrating these effects.

fauces may be produced by, and always accompanies the intemperate use of, intoxicating liquors; but then the tongue is unnaturally red; the papillæ at the tip and gustatory papillæ prominent and angry. The condition of the fauces is well worthy the attention of the profession; let them notice it, if possible, in almost every patient that comes before them, and they will soon be struck with the correct index these parts afford of the habits of their possessors. There is one source of fallacy which must, however, be guarded against. This is a temporary vascular injection, induced by the long-continued straining of some people, when requested to take a deep breath for the purpose of showing the fauces. Where, however, the examiner is aware of this fact, he will find no difficulty in distinguishing the temporary blush from the permanent stain. I may here add, by-the-by, that I have occasionally detected habits of intemperance, which the statement of the examinee, and the letters of his referees, gave no note of. In truth, there are many men who habitually drink more than is consistent with longevity, but who never get drunk. Such men invariably declare that they are quite temperate. This condition of the tongue and fauces is not limited to the mouth; it is not a mere local congestion; it exists, more or less, in the stomach, and the rest of the alimentary canal; and hence, I believe, in the otherwise healthy subject, a cigar acts as a moderate purgative, but in typhus as a poison. Can, however, any medical man assert, that it is natural or healthy to take an aperient daily? In the habitual smoker the heart is

irritable, and the person nervous; the pulse frequently intermittent, and irregular in force and frequency.

“In the course of my practice I have met with many individuals who, like myself, have abandoned smoking, because they thought it did not agree with them. Many have done so at my suggestion. I have never found one who does not assert, most positively, that he has been in better health since, and that his intellectual activity has been increased.

“With regard to the arguments that have been adduced in favor of its innocence, I will first advert to the Turks. The mental condition of the Turks, as a nation, would be one of the strongest arguments on my side, were the question not complicated with opium. The fact of their longevity as a race must be proved by statistics, to establish the opinion that smoking does not shorten their lives; but even then it would not prove that smoking is innocuous to Englishmen. My assertion, that it is especially injurious in England, applies to the young men of this country, about whom I am most anxious, because they all live up to fever-point. I believe that the injury inflicted by a pipe of tobacco in the mouth of a poor man, who lives below par rather than above it, cannot be appreciated; but not so a cigar smoked by a man who lives high, and uses his brain much. It matters little whether the mere animal, let him be in the shape of a stock-broker's clerk or a country voluptuary, smokes more or less; but I am sure it is incompatible with great and long-continued intellectual activity, and that amount of high living which appears

almost necessary to health in the imperfect atmosphere of great towns.

“The different mode of living on the Continent and here, renders all arguments drawn from the effect of smoking on foreigners, in favor of the habit, scarcely applicable to the inhabitants of this island; though even in Holland, according to the statement of that interesting writer, Dr. Carlyon, this habit is fatal. It appears to me, that it is our *duty* to discourage any habit that is not conducive to health, and equally *criminal* to encourage a habit which is liable to become a master and a tyrant.

“The gentry and aristocracy of this country must not suppose that because the habit of smoking does not lead in their case to drinking, that therefore it injures them not. Hundreds of gentlemen smoke without drinking more than they believe is conducive to health, and smoking does not in their persons lead to intemperance. But from this fact the habit is the more dangerously insidious. Its ill effects are less easily observed; the habit advances in intensity without their perceiving any objection to it; but the penalty is paid nevertheless, and an untimely grave is often the result.

“One of the best riders to hounds in England, who never smokes, told me that he required much less sleep than his friends, almost all of whom smoke; and that they often remarked with astonishment how fresh he always was in the morning, notwithstanding late hours, champagne, &c. That gallant soldier, General Markham, whose life was sacrificed to his hasty journey from India, never smoked himself, nor would he allow any of

his personal staff to do so, so strong was his opinion of its injurious tendency to the soldier's character.

"I may be mistaken, but I believe that all our greatest men — I mean intellectually — statesmen, lawyers, warriors, physicians, and surgeons, have either not been smokers, or if smokers, that they have died prematurely.

"My friend, Mr. Whitfield, the resident medical officer at St. Thomas's Hospital, speaks most strongly of the injury he has witnessed from habitual smoking, his experience extending over above forty years, in a hospital containing near 500 beds, and relieving some thousands of out-patients every year. He has seen three cases of delirium tremens induced by tobacco smoke alone. In none of these cases had the patients indulged in drinking intoxicating liquors, so that there was no doubt of the single cause of the disease."

109. The following extract is from a paper on the "Effects of Tobacco on Europeans in India," by James Ranald Martin, Esq., in the *Lancet* of 28th February, 1857:—

"My friend, Mr. Solly, having referred to what I have stated in the work on 'The Influence of Tropical Climates on European Constitutions,' respecting the effects of the abuse of tobacco, and believing this subject to be one seriously affecting the public health, I beg leave to state, more particularly and more in detail, some of the results of my observation on this question.

"It is matter of constant observation amongst army surgeons, ever since the peace of 1815, that the habit of cigar-smoking, introduced into this country from Portugal, Spain, and France, by the officers of the British

army, has produced a greater amount of pale, sallow complexions, amongst young officers more especially, than had ever before been observed as resulting from any other cause. Had the morbid complexion been all, the matter would have been of little importance; but here it generally means loss of appetite, defective nutrition, anæmia, and disordered nervous and vascular functions, all in the same individual. My observations lead me altogether to the conclusions of Van Praag, that the operation of tobacco is at first stimulant, and at last depressing, not only in the circulation and respiration, but also on the nervous system; accelerated circulation, increase of respiratory movements, and excessive irritation of the muscular system, being the phenomena first observed. The concluding symptoms are those of general depression, both of animal and organic life, with occasional instances of moral and physical impotency, accompanied by the most mournful results. I am here speaking of what I have witnessed.

“The most ordinary results of excessive use of tobacco are—the most severe forms of irritable dyspepsia, giddiness, disturbed action of the heart, nervous tremors, and cachexia, all amounting occasionally to palsy. Young gentlemen who are in the habit of putting ‘an enemy into their mouths to steal away their brains,’ do not become aware of these facts until it sometimes becomes too late. A highly scientific and distinguished captain of engineers of the Indian army told me—‘All the young fellows of my term who went out to India, having bad habits, are dead, excepting two.’ And what has become of them? ‘They were cashiered!’ Here

the question of tobacco was not immediately in contemplation; but I have no doubt whatever, from the results of my observations in India and at home, that of the habits which led to this sad end, the abuse of tobacco was, amongst these young officers, the most banefully influential.

“I dispute the alleged benefits of even moderate tobacco smoking as a preventive of damp or of malaria; and seriously anomalous symptoms I have seen to arise, in the progress of malarious fevers, from the abuse of it—such symptoms as may lead to the most grave mistakes in the treatment of fevers, if the medical officer be not careful to inquire into the habits of his patient. Of this also I have seen the most emphatic examples. Those who urge the prophylactic benefits of tobacco, carry the habit from the swamps of Burmah into the arid plains of Hindostan, in defiance of geographical differences.

“I can state of my own observation, that the miseries, mental and bodily, which I have witnessed from the abuse of cigar-smoking, and chiefly in young men, far exceeded any thing detailed in the ‘Confessions of an Opium Eater;’ and I feel assured that the abuse of tobacco, however employed, may be classified amongst those habits which produce chronic poisoning.”

110. In the *Lancet* for 14th March, 1857, page 281, there is an appalling account of the death of a woman who had become paralytic, apparently from excessive smoking of tobacco, and whose death was occasioned by her clothes having taken fire from her pipe.

111. In the *Lancet* for 28th February, 1857, Mr. Higginbottom, of Nottingham, says :

“After fifty years of most extensive and varied practice in my profession, I have come to the decision, that smoking is a main cause of ruining our young men, pauperizing the working-men, and rendering comparatively useless the best efforts of ministers of religion.” The proverbial drunkenness of our countrymen can only be arrested by laying the axe at the root of its superinducing cause, the thirst-creating power of tobacco. ‘Penury and crime,’ says a medical temperance reformer, ‘are brought on by drinking, to supply moisture to the system, after it has been drained by spitting away the flourishing saliva. Hence drunkenness in the masses.’”

112. Extract from an article by J. Pidduck, M. D., in the *Lancet* of 14th February, 1856 :—

“As physician to a dispensary in St. Giles’s during sixteen years, I had extensive opportunities of observing the effects of tobacco upon the health of a very large number of habitual smokers. The extraordinary fact is this : that leeches were killed instantly by the blood of the smokers, so suddenly that they dropped off dead immediately they were applied ; and that fleas and bugs, whose bites on the children were as thick as measles, rarely if ever attacked the smoking parent. It may be said : ‘But why may not this poisonous effect upon leeches, fleas, and bugs, be owing to gin, and not tobacco?’ The answer to this objection is, that the Arabs and Bedouins, who drink neither wine nor strong drink, are protected from the onslaught of the insects, which

swarm in their tents, by poisoning their blood with tobacco, whilst the wine and spirit-drinking Europeans are attacked without mercy. What is so fatal to insect life, cannot be otherwise than most formidable to the life of persons whose blood is thus poisoned. If the evil ended with the individual who, by the indulgence of a pernicious custom, injures his own health, and impairs his faculties of mind and body, he might be left to his enjoyments—his '*Fools' Paradise*'—unmolested. This, however, is not the case: in no instance is the sin of the father more strikingly visited upon his children, than the sin of tobacco smoking. The enervation, the hypochondriasis, the hysteria, the insanity, the dwarfish deformities, the consumption, the suffering lives and early deaths of the children of inveterate smokers, bear ample testimony to the feebleness and unsoundness of the constitution transmitted by this pernicious habit.

“How is it, then, that the Eastern nations have not, ere this, become exterminated by a practice which is almost universal? The reply is, that by early marriage, before the habit is fully formed, or its injurious effects decidedly developed, the evil to the offspring is prevented; but in this country, where smoking is commenced early, and marriage is contracted late in life, the evil is entailed in full force upon the offspring. Adulterations of all kinds are bad enough, but the adulteration by a narcotic—poisoning the life at its source, the breath; and, in its course, the blood—is worse than all. By these adulterations, the health of the community is injured; by this, a man injures his own health and that of his children. Ought not this

consideration to restrain every wise and good man from contracting or continuing such a senseless and destructive habit of self-indulgence? For old men, smoking may be tolerated; but for young men and boys, it cannot be too severely reprobated."

113. The following extract is from the article, "Is Smoking Injurious?" in the *Lancet* of 31st January, 1857, by Dr. Johnson:

"What is the testimony of facts? Why, for one inveterate smoker who will bear testimony favorable to the practice, ninety-nine such, of the candid of these, are found to declare their belief that this practice is injurious; and I scarcely ever yet met with one habitual smoker who did not, in his candid moments, regret his commencement of the habit.

"A few weeks since, I was summoned to attend a gentleman in the country. On my arrival I found him complaining of headache, nausea, languor, loss of appetite and sleep, and inability to rise in the morning; his expression was anxious, haggard, and nervous; his complexion sallow and jaundice-looking; his tongue highly furred, and teeth incrustated with a dirty greenish-yellow deposit; his breath, which was exceedingly offensive from the odor of tobacco, revealed to my mind the nature of the evil. On my inquiry, he informed me that for many years he had indulged rather freely in the use of tobacco, declaring, at the same time, that ever since his apprenticeship to smoking, the pernicious habit had gradually and insidiously crept upon him, till at length it became confirmed. I persuaded him to desist from its indulgence, and succeeded; but he found the task a

terrible one, so enslaving is the habit. After a short time, however, he succeeded in conquering the appetite. Many of the symptoms have entirely disappeared, and he is now considerably improved. Is not this case, in the experience of most medical men, the type of thousands more?

“It is a certain fact, that devoted smokers are liable to both constitutional and local disorders of very serious characters. Among the former, we notice giddiness, sickness, vomiting, dyspepsia, diarrhœa, angina pectoris, diseases of the liver, pancreas, and heart, nervousness, amaurosis, paralysis, apoplexy, atrophy, deafness, and mania. Amongst the latter, ulceration of the lips (not unfrequently of a syphilitic character, from the morbid matter introduced into the healthy subject, by smoking cigars or pipes which have been used by diseased persons), ulceration of gums, cheeks, mucous membrane of the mouth, tonsils, throat, etc.

“Most of these results I have selected from authors of some *locus standi*—amongst whom I may mention Drs. Prout, Bright, Laycock, Radcliffe and Ranking, Pereira, Orfila, Trousseau, Johnstone, Sir B. Brodie, and Professor Lizars. Dr. Taylor, in his valuable work on Poisons, says: ‘That a poisonous substance like tobacco, whether in powder, juice, or vapor, cannot be brought in contact with an absorbing surface like mucous membrane, without in many cases producing disorder of the system, which the consumer is probably quite ready to attribute to any other cause than that which would render it necessary for him to deprive himself of what

he considers not merely as a luxury, but an article actually necessary to his existence.' — p. 787.

“The quantity of this poisonous weed entered for ‘home consumption’ in the eleven months ending November, 1856, was 29,776,082 lbs. The deleterious effects which this enormous amount of tobacco produced upon its victims, both physically, mentally, and morally, admits of no possible calculation.”

114. Dr. Pugh, in the *Lancet* of 21st February, 1857, says :

“I have read with interest the communications of Mr. Solly which you have recently published; and having been favorably circumstanced, during nearly twenty years’ practice in the Australian colonies, for observing the pathological conditions arising out of the habitual use of tobacco, I beg to add a few facts to those already before the profession.

“The life of an Australian squatter, without the settled districts, is one of an exceedingly monotonous character. He passes into positions far removed from all intercourse with intelligent companions; he enjoys few of the ameliorating circumstances which give a charm to social life. His home is situated in the solitude of the vast plain in which his flocks are fed, and he is visited only by those who are in his employ. For the year together, no opportunity occurs for interchange of thought with educated minds. Thus circumstanced, it is not surprising that an occasional instance is presented of men becoming slaves to an agent by which they are enabled to pass in dreamy stupor a portion of the weary time of their voluntary banishment. Unfortunately, the

occasional pipe of tobacco is soon merged into a life, where no moment is tolerable in which the narcotic vapor is withheld. His morning smoke is commenced while in his bed; his day is passed in a cloud; and the pipe accompanies him when retiring to rest, to be laid aside when overpowering sleep prevents its further use. The first visible effects of such a life are a disregard for cleanliness and personal appearance. The features become bloated, and the lips lose their healthy hue. The cheerful and active movement has given place to a heavy listlessness. The character of the man has undergone a change. When roused, he attends to business, but rapidly returns to a state of abstraction. Dyspeptic symptoms annoy him, and soon the heart becomes irritable, and the pulse is irregular. Hypochondriasis in its worse forms is presented, accompanied at times with a suicidal tendency; and I have known individuals in this condition rush to the town, dreading the consequences of a longer continuance in their life of solitude. The brain and ganglionic system become involved, and I have seen softening, accompanied by paralysis. Amaurosis is not an unfrequent indicator of the existing nervous prostration. When under treatment, whether from disease or accident, the inveterate tobacco-smoker quickly presents evidence of the constitutional operations of the narcotic. Typhoid symptoms show themselves at a very early stage, and smoking delirium is present, which require to be combated by active tonic remedies.

“No alcoholic beverage reaches the distant station. Tea and tobacco are the luxuries of bush life; hence a

facility is afforded for connecting the physiological effects with their exciting cause — tobacco!

“If such be the consequences of excessive and continued doses of narcotine, can we suppose that no mischief will accrue to the children of this country who are to be daily seen recklessly enjoying the pipe or the cigar? I fear a healthy nutrition is incompatible with the proceeding, and think, with Mr. Solly, that the future happiness of the people of England may be jeopardized by a practice, which intercourse with our continental neighbors has rendered so popular.”

115. Mr. M'Donald, Surgeon to the Garnkirk and Heathfield works, says :

“Having paid some attention to the effects of tobacco-smoking on the system, I have noted down a few observations made over a wide field.

“Sailors and navvies smoke more than any other class. The sailor uses from 8 oz. to 16 oz. of tobacco per month; the navy, 8 oz. or 10 oz.; but part of this is chewed. Bad taste in the mouth, with sometimes an angry, irritable point on the tongue, lips, or fauces, which prevents him from smoking for a few days, are the only bad results I have observed. It does not appear to affect the nervous system of either of these classes. The miner uses above 8 oz. per month. Often breathing an impure air, the tone of his system is lowered, and then tobacco exerts its baneful influence on him. He is subject to dyspeptic, bilious, and nervous attacks, while those who do not smoke are invariably the healthiest.

“Now, let the sailor or navy take to sedentary em-

ployment, and in a short time tobacco-smoking begins to affect him as it does the man of sedentary habits. His hand begins to shake, his mouth feels clammy and he has a bad taste in it; he loses to a great extent his fine gustatory sense; his appetite becomes capricious; he feels languid and indolent; his memory becomes confused; he has cardiac disturbance; and spermatorrhœa, with all its evil results, not unfrequently comes on from smoking. A strong constitution may resist it for a few years, but it ultimately gains the victory. It is generally supposed, that those who labor in the open air are exempted from its bad effects. This is only the case in certain conditions. They must be well fed. On the laborer with low wages, it exerts its baneful influence—first, from its own effects; secondly, from squandering a large portion of that which should go to nourish him, whereby he is still further debilitated.

“I may mention a curious fact, not generally known, but which requires only to be tried to be proved, viz., that no smoker can think steadily or continuously on any subject while smoking. He cannot follow out a train of ideas — to do so he must lay aside his pipe.

“On woman it takes a sad hold. She soon becomes lazy and indolent, of dirty habits, and makes bad recoveries from her confinements; her children at the breast are liable to erysipelatous and other skin diseases.

“In Scotland, in addition to the effects of tobacco, may be added those of its adulterations, viz., copperas, salt of tartar, saltpetre, and sand. The salts cause the tobacco to feel intensely hot and acrid, irritating mostly all the mucous membranes. These adulterations are

added to give color, and by retaining a large amount of water, to cheat both revenue and consumer. It gives rise to that form of caries of the teeth which commences by internal decay. The tooth being unduly stimulated by the oft-applied heat, a bony deposit takes place on the fangs, the canals are partially or wholly obliterated, and the supply of nourishment being cut off, some day, while perhaps eating a piece of soft bread, the crown gives way, and the tooth rapidly crumbles down. Sand is used to a very great extent, finely sifted; it perhaps is harmless, but affords a good illustration of how openly adulteration can be carried on in a free country.

“In conclusion, I may state, that the germs of premature decay, which abuse of tobacco is spreading through the country, will ultimately, in my opinion, prove more overwhelming than even the serious abuse of intoxicating liquors.”

116. The following is an extract from a communication in the *Lancet*, by Walter Tyrrell, M. R. C. S.

“More especially would I direct attention to the depressing influence of tobacco on the sexual powers. I feel confident, that one of the most common, as well as one of the worst, of its effects, is that of weakening, and in extreme cases, of destroying the generative functions. I can illustrate this by a case which came under my notice recently, and one which I believe to be by no means rare. My attention has just been directed to the subject by Mr. Lizars’ admirable paper, when a gentleman called to consult me, as he found himself impotent. He was a young man, in apparently good

health, and his generative organs showed no signs of disease or decay. He stated that it was only during the last few months that he had found his desire for connection gradually decreasing, and that when he did attempt it, his efforts were altogether futile, or only consummated after a long interval. On inquiry into the supposed cause, amongst other matters, I found he had latterly become a great smoker, sometimes smoking a dozen cigars a day. Without particularly directing his attention to that point, I ordered him to confine himself to one cigar a day, at the same time ordering him a 'placebo.' At the end of a fortnight he called again, saying he was very much improved; he had greater desires, and more power of satisfying them. I now told him he might resume his smoking, but continue the medicine, to which he attributed all the benefit, telling him that he need not call again unless he found himself worse. In a few days he returned with exactly the same symptoms as at first. I was now convinced of the cause, and ordered him entirely, though gradually, to leave off the habit. He was at first unwilling to submit; and it was not until I had repeated my former experiment, with, if possible, more positive results, that he consented. He has, I am glad to say, perfectly carried out his good resolutions, and with a perfectly successful result.

"This case, I think, satisfactorily proves that, in some persons at least, tobacco is not the harmless luxury many would make it; and I am sure this case has many parallels."

117. Statistics of France, from *Lancet* of 14th February, 1857.

“From 1851 to 1856, France, according to the *last* census, has gained *only* 256,000 inhabitants. In the same number of years, from 1841 to 1846, the increase was 1,200,000. The difference is enormous.” — (See *The Times*, January 29, 1857.)

118. The following extract is from an account by Mr. Erichsen, in the *Lancet* of 21st February, 1857, of a case of slow poisoning by snuff containing lead :

“I was particularly struck with the appearance of the hands and arms, which were lying powerless on the coverlid of the bed. There was marked ‘wrist-drop’ of both arms—the hands hanging flaccid and at right angles with the forearms, without the patient being able to extend or raise them in the smallest degree. There was, however, some slight power of extension left in the fingers, especially in those of the left hand. Though unable to extend the fingers, raise the hand, and scarcely having power to elevate the arm, Mr. A. B. could *flex* the fingers pretty firmly, so as to give a tolerably good grasp to whatever was put into his hand. The index finger of the right hand seemed to be the most affected, and was permanently flexed.

“There was a very marked degree of wasting of the whole mass of the extensor muscles of the forearm, so that a longitudinal hollow corresponding to the interosseous space was perceptible down the whole length of the forearm, and a very deep and marked depression in the interspace between the first and second metacarpal

bones. The hands were quite powerless, and the patient was unable to render himself the slightest assistance.

“The tongue was pale and flabby; and, on examining the gums, I found a deep blue-black or leaden-colored line around the teeth, more marked about the molars.

“Digestion was much impaired. Appetite capricious, with much flatulence, and occasional attacks of constipation, with colicky pains.

“On examining Mr. A. B., I was at once struck by the very marked ‘wrist-drop,’ more complete than I had ever seen before; the limitation of the paralysis to the extensors, which were greatly wasted; the existence of a blue line around the teeth; and the occurrence of occasional attacks of constipation and colic, together with flying pains in the fleshy parts of the body, with absence of all articular inflammation. These symptoms led me to the conclusion, that Mr. A. B. was suffering from saturnine paralysis, and that he had been slowly poisoned by lead.

“In the course of my inquiries, however, I found that he took snuff in considerable quantities. I accordingly emptied his box of its contents, and took them up to town with me, with a view to further examination. The snuff was analyzed by Professor Williamson, who immediately detected in it a considerable quantity of lead; and another supply having been procured from the shop at which Mr. A. B. was in the habit of purchasing it, was subjected to analysis by Dr. Garrod, who readily detected large quantities of the metal in it.”

119. When snuff is packed “in boxes lined with very

thin lead, which are much used by the Paris retailers, a chemical action takes place, the result of which is to charge the snuff with subacetate of lead. Mayer of Berlin traces several deaths and cases of 'saturnine paralysis' to the patients having taken snuff from packets, the inner envelope of which was thin sheet-lead, in constant contact with the powdered weed."—*From the Athenæum, 2d October, 1858.*

120. Dr. Bucknill, of the Devon County Asylum, in his communication to the *Lancet*, 28th February, 1857, argues that "the preponderance of lunatics of the female sex, is conclusive evidence against the theory that tobacco either causes or predisposes to mental disease." But the accuracy of Dr. Bucknill's statistical argument is liable to many objections. It may be differently explained; and I have tables furnished to me on the subject, which I could adduce, if necessary, establishing an opposite conclusion. At all events, Dr. Bucknill seems to have overlooked the many powerfully exciting and predisposing causes rendering females liable to attacks of insanity.

121. A scientific physician, on reading Dr. Bucknill's communication in the *Lancet*, observed that "Dr. Bucknill blows hot and cold on the tobacco blast;" and on Dr. Pretty's paper in the same number of the *Lancet*, that "Dr. Pretty adduces *pretty* proofs of contradiction and absurd reasoning."

122. In the Asylum Journal of Mental Science for October, 1857, vol. iv. No. 23, edited by Dr. Bucknill, there is a statistical account or memorial drawn up by a Miss Dix, of the Hospitals for the Insane in the

United States, from which I extract the following: "In the Massachusetts State Hospital, in 1843, there were eight cases of insanity produced by the abuse of tobacco."

123. Dr. Kirkbride, in his report of the Pennsylvania Hospital for the Insane for 1849, states that "two cases in men and five in women were caused by the use of opium, and four in men by the use of tobacco." "The use of tobacco," continues he, "has, in many individuals, a most striking effect on the nervous system; and its general use in the community is productive of more serious effects than is commonly supposed."

124. The following interesting case has been sent me by a medical friend, the ordinary attendant on the patient. A gentleman about thirty-five years of age, long addicted to drinking, smoking, and chewing, became quite fatuous, and subject to fits closely resembling epilepsy. He was removed to a lunatic asylum, where the ardent spirits were first given up; but no change for the better for six months. The smoking tobacco was then reduced, when some little improvement took place; and when both the smoking and chewing tobacco were reduced, a great amendment followed; and when totally given up, the fits ceased, and he became perfectly sane. It is upwards of two years since he became rational and free from the fits; and when interrogated, what was the cause of his mental alienation and fits? he unhesitatingly ascribes them to the use of tobacco.

125. The next case corroborates the effects of tobacco on the nervous system. A strong, brawny carter, thirty years of age, states that five years ago he was struck

speechless, and paralytic of his left side, which he ascribed to smoking tobacco, generally half-an-ounce daily, since he was a boy. He lay powerless for some weeks among his friends, being unable to earn his livelihood. In twelve months, he so far recovered as to lead a horse, and has since slowly recovered. Still, he cannot grasp with his left as with his right hand. He "threw away tobacco forever," from the day of his paralytic attack. October 9th, 1858.

126. Dr. Carlyon, in his "Early Years and Late Reflections," writes as follows :

"What can be more deleterious than tobacco. Many an honest Deutscher have I seen smoking himself into the grave!

'Rauch — Rauch — immer Rauch!'

the countenance pale and haggard; the frame emaciated; the propensity to smoke irresistible!

'A pipe! a pipe! My heart's blood for a pipe!'

Neither is there need of much physiological acuteness to account for the bad effects of this pernicious habit on the health. Tobacco is a very powerful narcotic poison. If the saliva, the secretion of which it provokes, be impregnated with its essential oil, and so swallowed, the deleterious influence is communicated directly with the stomach; or if, as more frequently happens, it is ejected, then the blandest fluid of the human frame—that which, as a solvent and diluent, performs an office in digestion secondary only to the gastric juice itself—is lost. Even snuff, my old friend Abernethy used to say, fuddles the nose; but the fumes of tobacco pos-

sess a power of stupefying all the senses and all the faculties, by slow but enduring intoxication, into dull obliviousness.

“I recollect reading the address of a professor, in some American University, to his pupils, on the bad effects of tobacco. This address, sensible and spirited, seemed to come from the professor’s very heart. He deprecated, in the most forcible manner, the practice of smoking, which had been recently taken up, and said, ‘That prior to the period when pipes were to be seen in the mouth of every student, the youth of the University were as different in their looks from the individuals with whom he was then surrounded, as health from disease.’”

He gives the following translation of an epigram, by Petrus Scriverinus, on a tobacco-pipe :

“Old men and young, beware! beware!  
A pipe of tobacco is Satan’s snare;  
Not surer the net for birds is spread,  
By the pipe’s sweet note to capture led,  
Than the whiffs which the lovers of smoking take,  
Are sure to lead to the Stygian lake.”

127. Dr. Taylor, who, as an accurate analyst, and an enlightened medical jurist, has deservedly earned a name of the highest authority in all medico-legal questions, in his work on Poisons, says :

“A poisonous substance like tobacco, whether in powder, juice, or vapor, cannot be brought in contact with an absorbing surface, like mucous membrane, without in many cases producing disorder of the system, which the consumer is probably quite ready to attribute

to any other cause than that which would render it necessary for him to deprive himself of what he considers, not merely a luxury, but an article actually necessary to his existence."

128. In the Half-yearly Abstract of the *Medical Sciences*, vol. i., p. 73, there is an interesting collection of cases of disease produced by tobacco. They show the terrible effect of the plant on the digestive and nervous systems. The first is that of a young American lawyer, who "used (the weed) freely, by smoking, chewing, and snuffing." He labored under "acidity, cardialgia, gastrodynia, palpitation of the heart, giddiness, vertigo, and fulness of the head, with the most profound gloom; keenly alive to every feeling, he was in constant fear of death, yet tempted to commit suicide to escape from a life more intolerable than death itself. He had a firm conviction in his mind, that he should die from apoplexy." He had frequent shocks in the epigastrium, both during the day and during the night. When he threw away tobacco for ever, all his dreadful feelings "vanished as if by magic." He ultimately became "an able and talented member of the bar, in the possession of good health, spirits, and prosperity."

129. His sister, thirty-nine years of age, a married lady, mother of two children, had smoked and snuffed tobacco for fifteen years—for eight years had those peculiar shocks at the epigastrium, resembling those produced by electricity, with a sinking sensation at the pit of the stomach, cardialgia, acid eructations, a sense of rushing of blood to the head, palpitations, sleeplessness, and startings when first falling into slumber. These

increased, and then tenderness of the spine along its whole length, rigidity of the limbs, costiveness, derangement of the catamenia, &c. Seeing the good effect of abandoning the use of tobacco in her brother, she made the same experiment in part herself, and with the same marked relief from many of the symptoms — she ultimately recovered a comfortable state of health. She has frequently ventured upon a moderate use of tobacco, but after using it a while, she experiences her old feelings, and then quickly abandons it.

130. Dr. Laycock, Professor of the Practice of Physic in the University of Edinburgh, a physician not less distinguished for great erudition than for his practical experience, and skill, and tact, in the detection and treatment of disease, published, in the *Medical Gazette* for October 2d, 1846, a paper, so corroborative of my views regarding tobacco, as to render an apology for publishing the following extract from it wholly unnecessary. He remarks:—

“It is only by personal observations made during the last two or three years, that I have become fully aware of the great changes induced in the system by the abuse of tobacco, and of the varied and obscure form of disease to which especially excessive smoking gives origin; and I now propose to state some of the results at which I have arrived.

“The consequences of smoking tobacco are manifested in the buccal and pharyngeal mucous membrane and their diverticula; on the stomach, the lungs, and the heart, and on the brain and nervous system. With regard to these consequences, it may be generally stated

here, that they vary according to the quantity of tobacco smoked, and according to the pathological conditions and peculiarities of the individual himself. Some persons will smoke a very large quantity before certain symptoms arise, while others experience these with a very small quantity. The amount consumed by habitual smokers varies from half an ounce to twelve ounces per week. The usual quantity is from two to three ounces. Inveterate cigar smokers will consume from four to five dozen per week of the lighter kind of cigars, as Manillas, Bengal cheroots, etc.

“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 a separation of the epithelium. Then the tonsils and pharynx 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 mucus. The inflammatory action also extends upwards into the posterior nares, and the smoker feels from time to time a discharge of mucus from the upper part of the pharynx, in consequence of the secretion from the mucous membrane of the nares collecting within them. Sometimes the anterior nares suffer, but in this case the irritation is not marked by increased secretion so much as by tickling and itching within them. The irritation will also extend 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, and a peculiar spas-

modic action of the orbicularis muscle of the eye, experienced, together with intolerance of light, on awaking from sleep in the morning.

“I think the frontal sinuses do not escape; for I find that one of the symptoms, very constantly experienced after excessive smoking, is a heavy, dull ache, precisely in the region of these sinuses. But descending along the alimentary canal, we come to the stomach, and here we find the results to be, in extreme cases, the symptoms of gastritis. There is pain and tenderness on pressure of the epigastrium, anorexia, nausea on taking food, and a constant sensation of sickliness, and desire to expectorate.

“The action of the heart and lungs is impaired by the influence of the narcotic on the nervous system, but a morbid state of the larynx, trachea, and lungs, results from the direct action of the smoke. The voice is observed to be rendered hoarser, and with a deeper tone; sometimes a short cough results; and in one case that came under my notice, ulceration of the cartilages of the larynx was, I felt quite certain, a consequence of excessive use of tobacco. This individual had originally contracted the habit of smoking when a sailor, and it had become so inveterate, that he literally was never without a pipe in his mouth except when eating or sleeping. If he awoke in the night he lighted his pipe; the moment he finished a meal he did the same. It is only in extreme cases like this that the inference can be fairly made as to the morbid results of the habit, because there are so many other causes of disease to be estimated at the same time. This particular instance has, how-

ever, during my experience, been corroborated by others of a like kind; and I have come to the conclusion that inflammation and ulceration of the larynx in men are almost exclusively peculiar to the slaves of excessive tobacco smoking.

“Hæmoptœe is another morbid condition distinctly traceable to this habit. The patient experiences a slight tickling low down in the pharynx or trachea, and hawks up rather than coughs up a dark grumous-looking blood. I have not been able to ascertain whence this comes. I have known it to flow out of the patient’s mouth during the night, or to be effused shortly after lying down. It is a symptom worthy especial notice, however, because it gives great alarm, and may be readily mistaken for pulmonary hæmoptysis, or an expectoration of blood.

“The action of tobacco smoking on the heart, so far as I have observed, is depressing. The individual who, from some peculiarity of constitution, feels it in this organ rather than elsewhere, usually complains of a peculiar uneasy sensation about the left nipple—a distressing feeling—not amounting to faintness, but allied to it. In such an example no morbid sound can be detected, but the action of the heart is observed to be feeble, and slightly irregular in rhythm; yet not always so in the same person. An uneasy feeling is also experienced in or beneath the pectoral muscles; but oftener, I think, on the right side than on the left.

“On the brain the action of tobacco smoking is sedative. It appears to diminish the rapidity of cerebral action, and check the flow of ideas through the mind. This, I think, is a certain result; and it is in consequence

of this action, that smoking is so habitual with studious men, or men of contemplative minds. The phrases, 'a quiet pipe,' or 'a comfortable cigar,' are significant of this sedative action.

"There are a few facts which I would now state generally, and which appear as secondary results of smoking. Constipation and hæmorrhoids are often experienced by inveterate smokers. Acne of the face I have observed to be excited and kept up by the habit, and to disappear with the discontinuance of the latter. Blackness of the teeth and gum-boils are not uncommon results. There is also a sallow paleness of the complexion, an irresoluteness of disposition, a want of life and energy, to be observed occasionally in inveterate smokers, who are content with smoking; that is to say, who do not drink. I have suspected also that it has induced pulmonary phthisis.

"The nervous system, as I have said, has peculiarly suffered; and thence have arisen obtuseness in the functions of the several senses, irritability, indecision, and loss of courage, or of determination of action, weakness of the muscles of voluntary motion, and depravity of the secretions. Particularly have I observed the buccal membrane (in smokers) to become vascular, swollen, irritable, and prone to hæmorrhage. I have never observed an exception to the fact, that in smokers the voice has deepened in tone (I suppose from relaxation), or become hoarse or oppressed through excessive mucous secretion. Many an irritable nervous cough, without increased secretion from the tracheo-bronchial membrane, and many a cough dependent upon increased secretion, have I

known to follow the frequent use of tobacco in smoking. I believe it to be a great antagonist of the functions of the nervous system, especially in its relations to the organs of sense, of reproduction, and of digestion. I think I have known it to produce perfect atony, with all its train of consequences. I have known many instances in which I was unable to prove that the ordinary use of tobacco did any harm; I have known many more in which I could prove that it did do harm; and I have not known any good from it that might not have been obtained from less objectionable means.

“It will be seen that Dr. Wright corroborates my observations in several particulars; and although I am not at all desirous that this communication should be considered as a ‘counter-blaste’ to tobacco, I think the inveterate habit of smoking, snuffing, or chewing that drug, is worthy the special notice of physicians and practitioners in medicine in general, as a very frequent but unconsidered and unthought-of cause of disease. I am quite certain, indeed, that if the practitioner habitually direct his attention to the subject, he will find that many obstinate and difficult cases may be elucidated, by applying and extending the views detailed as well by Dr. Wright as myself.

“Gastric disorders, coughs, and inflammatory affections of the larynx and the pharynx, hæmoptœ, diseases of the heart, and lowness of spirits, are the principal diseases in which the pathological results of the habit are to be looked for. The color of the teeth, a pearly blueness of the lips, a slight trembling of the hands, and a quiet, passive expression of countenance, are the most

usual marks of the habit itself, and when present in any obstinate or anomalous disease, whether of the respiratory, circulating, alimentary, or nervous system, would warrant a special inquiry as to the habits of the patient in the use of tobacco. In all cases, the quantity of snuff used, or tobacco smoked, per diem or per week, should be ascertained, as patients are apt to say they only smoke a little; meaning, if pressed, that they smoke from half an ounce to an ounce of tobacco per diem—and the same with snuff.”

131. The following paper, published by the British Anti-Tobacco Society, was written by a physician of high standing and extensive practice in London:—

“The habit of smoking tobacco has given rise to the following ill effects, which have come under my observation in numerous instances, and that of all the medical men with whom I am acquainted. I shall state the bad effects of this poison categorically, premising that chewing tobacco is the most injurious, smoking not much less so, and snuffing least, although also most decidedly injurious. As smoking holds a middle position of these three injurious habits, or vices, especially when adopted by the young, I shall therefore make it represent the others.

“1. Smoking weakens the digestive and assimilating functions, impairs the due elaboration of the chyle and of the blood, and prevents a healthy nutrition of the several structures of the body. Hence result, especially in young persons, an arrest of the growth of the body; low stature; a pallid and sallow hue of the surface; an insufficient and an unhealthy supply of blood; weak

bodily powers; and, in many instances, complete emasculation, or inability of procreation. In persons more advanced in life, these effects, although longer in making their appearance, supervene at last, and with a celerity in proportion to the extent to which this vile habit is carried.

“2. Smoking generates thirst and vital depression; and to remove these, the use of stimulating liquors is resorted to, and often carried to a most injurious extent. Thus two of the most debasing habits and vices to which human nature can be degraded, are indulged in to the injury of the individual thus addicted, to the shortening of his life, and to the injury and ruin of his offspring, if, indeed, he still retain his procreative powers—a very doubtful result—and the more doubtful when both vices are united in one person.

“3. Smoking tobacco weakens the nervous powers; favors a dreamy, imaginative, and imbecile state of existence; produces indolence and incapability of manly or continued exertion; and sinks its votary into a state of careless or maudlin inactivity and selfish enjoyment of his vice. He ultimately becomes partially, but generally paralyzed in mind and body—he is subject to tremors and numerous nervous ailments, and has recourse to stimulants for their relief. These his vices cannot abate, however indulged in, and he ultimately dies a drivelling idiot, an imbecile paralytic, or a sufferer from internal organic disease, at an age many years short of the average duration of life. These results are not always prevented by relinquishing the habit, after a long continuance or a very early adoption of it. These

injurious effects often do not appear until very late in life.

“4. The tobacco smoker, especially if he commences the habit early in life, and carries it to excess, loses his procreative powers. If he marry he deceives his wife, and disposes her to infidelity, and exposes himself to ignominy and scorn. If, however, he should have offspring, they generally either are cut off in infancy, or never reach the period of puberty. His wife is often incapable of having a living child, or she suffers repeated miscarriages, owing to the impotence of her husband. If he have children, they are generally stunted in growth or deformed in shape: are incapable of struggling through the diseases incidental to children, and die prematurely. And thus the vices of the parent are visited upon the children, even before they reach the second or third generation. I have constantly observed, that the children of habitual smokers are, with very few exceptions, imperfectly developed in form and size, very ill or plain-looking, and delicate in constitution. These imperfections are most manifest in the female offspring, for the procreative inability being chiefly in the husband, and less in the wife, unless from disgust at his habits, and the female generally deriving the chief characteristics of form, feature, and constitution, from the male parent, the female child is more or less the victim of his vices and debased habits. If, therefore, ladies sufficiently value their own happiness, and the health and happiness of their families, or desire what all desire “who love their lords,” they ought not to marry smokers; nor should they trust the promises of reforma-

tion which he may make, as they are very seldom kept. Persons who feel that smoking is injurious to them in any way whatever, or who are desirous of having instructions to enable them to relinquish the habit, should have recourse to the best medical advice to enable them to recover from existing injurious effects, and to prevent the accession of others which may supervene at some future period, even although the habit has been relinquished."

132. Professor Siebert, of Jena, in his "Treatise on Diseases of the Belly," 1855, gives the following striking case:—

"Advocate T——, in B——, a robust, muscular, and athletic man, was under an affection of the spine from 1840 to 1845. He had peculiar sensations in different parts of the spinal cord, which, according to the changing central seat, produced radiating effects throughout the system. When this central point mounted up to about the seventh vertebra of the neck, he experienced a numbness in the forearms and hands, with a sense of pressure in the breast, and a short, broken cough. If the pain was in the upper part of the spine, then there were other eccentric symptoms, such as palpitation of the heart. If lower down in the spine, then pain in the stomach, want of appetite, and vomiting. These gastric symptoms disappeared when the pain went down towards the cauda equina, and then there was disturbance in the sacral regions, cramp in the sphincter ani, nightly pollutions, sickly appearance, and hypochondriacal voice. When the entire spine was affected, there were disturbances in the lower extremi-

ties; not properly palsy, but devious movements, and difficulty in standing steadily or moving directly, so that he could not easily get over a stone—an effort causing him anxiety; and he was obliged often to hold by the wall through giddiness. Sometimes, when the pain went into the left hemisphere of the brain, the patient saw objects double. Various remedies were tried, preparations of iron, etc., but without effect. The patient was a smoker; and Professor Siebert discovered that he was uniformly worse after smoking cigars. With much difficulty the doctor got him to abstain from this practice for a short time, as a trial; and the consequence was a relief from the symptoms of which he had so long complained. He got gradually better, and ultimately regained his health. Subsequently, the professor met his patient in the inn called the Three Crowns, in B——; when, in the midst of their enjoyment and conversation, the latter, with somewhat of a pitiful look, inquired of his doctor if he might once again enjoy the luxury of a cigar. The doctor forbade; but the advocate insisted, and took his own way. After the second cigar, he became pale, speechless, and hollow-eyed, left his seat and went out. The doctor followed him, and heard him confess that he felt come upon him the whole symptoms of his former disease. He was again treated with medicine; and, having recourse to no more cigars, he was again restored to health—a clear proof, as the professor says, that the tobacco was the cause of his ailment.”

133. I was consulted lately by the father of a young barrister, who was ruining his prospects by smoking to-

bacco. The father writes that his son is smoking tobacco night and day, converting day into night, and having no appetite: as for his legal studies, they have fled for ever.

134. Mr. Turton, in an interesting communication on the evil effects of tobacco smoking, as read before the Royal Medical Society, on 20th February, 1857, says:

“I will adduce another instance of the evil effects of excessive smoking on the nervous system, as affecting the procreative powers—I allude to the case of an eminent author in the literary world, of the highest graphic historical writing, who from his earliest manhood has daily handled the quill, and between whose lips cigar has followed cigar in endless succession. He married when young; and although not yet sixty years of age, and of rather abstemious habits, it is well known that, for upwards of the last twenty years — such have been the effects of mental excitement from intense study, and of cerebral affection and influence on the sensorial nerves from excessive and persistent tobacco smoking—all marital connection between his wife and him has been suspended; that the poor woman might have been, during that period, as well banished or divorced, she has been so wholly deprived of her lawful pleasures.”

“Professor Millar,” says Mr. Turton, “mentioned on Wednesday, 18th February, 1857, to the gentlemen of his class, an interesting case of a gentleman about thirty-five years of age, who is suffering from paraplegia, caused by tobacco smoking. When this gentleman discontinued smoking for a few days, a marked improvement of the symptoms supervened; but the moment he

resumes his evil habit, the attack comes on as severe as ever."

Will he be able to do so always? Will not organic disease ultimately follow such attacks of functional disorder?

135. I am informed by a gentleman, whose name I am not at liberty to mention, that a popular writer of the present day married a lady, and that immediately after his marriage he proposed separate beds, which was agreed to. But on the young bride telling her situation to her mother, the latter investigated the condition of the two partners, and learned that the husband was impotent; he, in short, had long been an inveterate smoker. A separation and divorce were immediately obtained, and the lady was married to Mr. J. M. After the ordinary time she became a mother.

136. Extracts from Dr. Budgett's instructive paper, on "The Tobacco Question, Morally, Socially, and Physically Considered:" 1857. Dr. Budgett remarks: "Two hundred and sixty years ago, tobacco smoking was described as 'a branch of the sin of drunkenness;' but during the last ten or fifteen years, the consumption of the weed has so increased, especially amongst young people, that we cannot even yet comprehend its influence or result.

"Still, the habits and manners of a country stamp its identity; and if a New Zealander, or any manly representative of any of our many conquered countries, which we call colonies, could place himself in London, Manchester, or any of our large cities, and ask to be shown the youth of our present time, the fathers of the next

generation, he would look in vain for the strength of limb, the Saxon energy, the *mens sana in corpore sano* which has carried us successfully in every land.

“If some old warrior read this, perchance he may smile with contempt; but, before he does so, I would recommend him to take his stand at nine in the morning in any thoroughfare leading to London; scan carefully the thin, pale faces on every omnibus; measure in his mind’s eye the narrow shoulders, the shuffling walk of the great majority of pedestrians; and then let him tell me if he can recognize any of the manly elements which were, in his early day, the pride and glory of his country. No! Tobacco meets us at every corner: it smokes on every omnibus, like the reeking of a dung-hill; puppies, in the guise of officers and disguise of gentlemen, puff their impertinence into ladies’ faces, who may be unprotected in the streets; tailors’ clerks and shopboys, taking advantage (query!) of the early closing movement, light their cigars as they draw on their gloves for an evening’s ramble; and little boys, from the costermonger to the crossing-sweeper, form smoking-clubs of from three to twelve, passing their one pipe from mouth to mouth, in the secluded nooks of every alley, from the railway arch to the mythical arcana of the Adelphi. It is here that vice grows strong in company, and here the little boy receives his first practical instruction in larceny from his more advanced confederates; around the pipe, young pickpockets hold their parliament.

That this is so, no one can deny. It is a grave and

important subject for any legislature to consider, which looks beyond the accepted rule of expediency.

“The medical profession in France bear similar testimony; for the ‘Dictionnaire des Sciences Médicales’—a work of which it would be high treason in Paris to doubt the authenticity—after detailing at length the effects of tobacco amongst the workmen employed in the government factories (for in France it is a monopoly of the State), goes on to say: “The abuse of tobacco is the same as of all other pleasures of excitement, whether excesses of various kinds, strong liquors, and so forth (*comme de celui de toutes les jouissances par irritation, comme de la masturbation, de l’abus des femmes, des liqueurs fortes, &c.*), and that it is astonishing that more numerous evils are not the result.’ Again: ‘Parents cannot too much oppose the fearful custom of using tobacco; often they allow it to begin with a culpable facility, and they do not appear to foresee all the evils to which they deliver the youth whom they permit to contract this baneful habit; often thoughtlessly recommended for some trifling ailment, the use of it is continued for the remainder of his days.’

“THE QUEEN’S TOBACCO PIPE.—We have seen pipes of all sorts and sizes in our time. In Germany, where the finest snaster is but twenty pence a pound, and excellent leaf tobacco only five pence, we have seen pipes that resembled actual furnaces, compared with the general race of pipes, and have known a man smoke out half a pound of snaster, and drink a gallon of beer at a sitting. But this is perfectly pigmy work when compared with the royal pipe and consumptive tobacco

power of Victoria of England. The Queen's pipe is, beyond all controversy—for we have seen it—equal to any other thousand pipes that can be produced from the pipial stores of this smoking world. She has not only an attendant to present it whenever she may call for it, but his orders are to have it always in the most admirable smoking state—always lighted, without regard to the quantity of tobacco it may consume; and, accordingly, her pipe is constantly kept smoking, day and night, without a moment's intermission; and there are, besides the grand pipe-master, a number of attendants incessantly employed in seeking the most suitable tobacco, and bringing it to the grand-master. There is no species of tobacco which the Queen has not in her store room. Shag, Pigtail, Cavendish, Manilla, Havana, Cigars, Cheroots, Negrohead, every possible species of nicotian she gives a trial to, by way of variety. A single cigar she holds in as much contempt as a lion would a fly by way of mouthful. We have seen her grand-master drop whole handfuls of Havanas at once into her pipe, and after them as many Cubas.

“It may abate the wonder of the reader at this stupendous smoking power of the Queen, when we admit, as must indeed have become apparent in the course of our remarks, that the Queen performs her smoking as she does many of her other royal acts, by the hands of her servants. In truth, to speak candidly, the Queen never smokes at all, except through her servants. And this will appear very likely, when we describe the actual size of her royal pipe. It is, indeed, of most imperial dimensions. The head alone is so large, that while its

heel rests on the floor of her cellar, its top reaches out of the roof. We speak a literal fact, as any one who procures an order for the purpose may convince himself by actual inspection. We are sure that the quantity of tobacco which is required to supply it must amount to some tons in the year. Nay, so considerable is it, that ships are employed specially to bring over this tobacco, and these ships have a dock of one acre in extent at the port of London, entirely for their exclusive reception. In a word, the Queen's tobacco-pipe, its dimensions, its attendance, its supply, and consumption of tobacco, are without any parallel in any age or nation."

Dr. Budgett adds: "The great Tobacco Warehouse is called the Queen's Warehouse, because it is rented by Government for £14,000 a year. This warehouse has no equal in any other part of the world. It is five acres in extent."

137. The following extract is from an article which appeared in the 178th number of "Cassell's Illustrated Family Paper," page 163. The statistics may be relied on, seeing that they are derived from various authentic sources, such as the writings of Husson, De Wateville, Soy, and other contributions by able authors, which will be found in the "Annuaire de l'Economie Politique," as well as obtained from official documents. If the report respecting the Emperor be true, his example affords another of the many melancholy proofs, which history supplies, of the prostration of power and trust, to the fallacious machinations of expediency—expediency which upsets that righteous administration for upholding which Kings are ordained to rule, and Princes to decree justice.

It confirms the unexceptional truth of the maxim, "that the love of money is the root of all evil." The advice of the sordid father to his son is not confined to private life, but extends to all ranks—the prince and the peasant alike—and is found in every age and country. "Make money, make money, my son, honestly if you can; but above all, *be sure to make money, be the consequences what they may.*" Where the greater power of doing mischief is vested, there is the greater need to demand responsible action. The prostitution of a nation's morals and health, for the sake of revenue, is an outrage to humanity—a curse to the progress of civilization. It is the destroying *bane* against which every philanthropic observer is called upon to impress "on the powers that be," that it is both their duty and interest to provide a compulsory antidote, as all other temporizing measures must fail.

"In the year 1854, Paris chewed, snuffed, and smoked 3,800,000 pounds of tobacco, for which it paid 17,725,263 francs. This poor justice must be done to the Parisians and to the French in general, that few of them are guilty of the peculiarly disgusting American form of tobacco vice. The quantity of the weed masticated is to that snuffed and smoked, as one to sixty-two, and has not increased per annum since 1839. The habit of taking snuff is on the decrease; that of smoking, on the contrary, has been of late years, and still is, in course of wonderful development. Formerly it was deemed an essentially vulgar practice; and was mainly confined to the estaminets; from them it spread to students' rooms and artists' attics, then reached the clubs, at last invaded

families, and 'the totality of the street,' and is now *à la mode* with all classes. As you are aware, the Emperor and Empress both smoke. If they had not a taste for tobacco, they might still indulge in, or rather subject themselves to its use, by way of setting an example, which his majesty has strong politico-economical reasons for wishing to see generally imitated. Between 1839 and 1854, the consumption of tobacco in all France nearly doubled in quantity. Whatever may be the vicious effect of the noxious weed on the popular health, this increased consumption helps to plump up the government finances curiously. The manufacture and sale of tobacco is, as my readers are aware, a State monopoly; but they are, perhaps, not aware of what M. Husson assures us is the fact, that it produces a clear yearly profit (*bénéfice net*,) of more than 100,000,000 of francs, or one-fifteenth of all the receipts of the public treasury."

138. In the *Lancet* for 14th March, 1857, page 250, Mr. Higginbottom quotes Sir David Brewster's memoir of Sir Isaac Newton, wherein he states :

"He was frugal in his diet, and in all his habits temperate. When he was asked to take snuff or tobacco, he declined, remarking '*that he would make no necessities to himself*' — a remark," says Mr. Higginbottom, "truly worthy of that great philosopher and Christian." My reasons for introducing the above are, that in many of the letters in the *Lancet*, on the tobacco controversy, the name of Sir Isaac Newton has been brought forward unwarrantably, by the advocates of the innocence of tobacco, to prove that that great mind was uninjured by

tobacco—a fact true only in this respect, that he never subjected himself to its influence.

139. Two additional cases, with illustrations, showing the effects of tobacco smoking upon the palate, tonsils, and tongue. These cases have lately occurred in the course of my own private practice.

T—— R——, twenty-six years of age, a strong, brawny carter, who had smoked half-an-ounce or more of tobacco daily, for five years, complained of dyspepsia, hypochondriasis, and impotency. The velum palati and tonsils exhibit the dark livid red and velvety appearance so characteristically described by Mr. Solly in the *Lancet* of 14th February, 1857, an extract of which will be found at page 85. The tongue is loaded with a greenish-white fur. It is *to this condition of the palate and tongue* which Mr. Solly directs the attention of medical examiners of insurance offices.

140. Case of colloid cancer on the tongue, drawn up by Mr. Turton.

“W—— R——, æt. thirty-two, a printer by trade, residing in ——, says he did not begin to smoke or drink till he was twenty years old. Whenever he drank, he always smoked a very great deal; in fact, he says, the pipe was seldom or never out of his mouth. About twelve months ago, he first noticed an ulcer on his tongue, near its centre; notwithstanding, he kept on smoking and drinking to a very great extent—the ulcer continuing rapidly to spread at that time. He was then seen by some medical gentlemen, who touched the ulcer with caustic. A band of matter resembling curd came out, and left a hole. The patient, though this ulcer

greatly annoyed him, and was gradually extending, was not deterred from smoking and drinking, till two months ago, when he was obliged to desist, in consequence of the pain becoming excruciating when he put a pipe between his lips. He then began to notice notches, as he says, on either side of his tongue. Such was his state when I saw him on Sunday week. His articulation, as you may imagine, was not very distinct. The mucous membrane of the cheeks and fauces are in accordance with the description of Mr. Solly, who says 'he can always detect a smoker by examining his fauces; for they assume a velvety-red appearance, and by the congested state of the mucous membrane.' The pain from the tongue causes him many a sleepless night, and his headaches are excruciating; the pain in his throat, he says, is greatest. While lying in bed, he sometimes feels as if he was suffocating."

141. The following extracts from the article Tobacco, contained in the "Dictionnaire des Sciences Médicales," pp. 190, 191-195, 196, are so confirmatory of the opinion which I had formed respecting the injurious effects of tobacco on the animal organs and functions, that I cannot refrain to append them. That voluminous and valuable work\* was compiled by the most learned and experienced physicians and surgeons in France.

"La préparation des tabacs exige un grand nombre d'ouvriers, et les émanations de cette plante sont si fortes et si malfaisantes qu'elles causent beaucoup d'incommodités à ceux qui s'occupent de ce travail; ils sont en

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\* Dictionnaire des Sciences Médicales, par un Société de Médecins et de Chirurgiens. Paris, 1821.

général maigres, décolorés, jaunes, asthmatiques, sujets aux coliques, au dévoiement, au flux de sang, mais surtout au vertige, à la céphalalgie, au tremblement musculaire, à un véritable narcotisme, et aux maladies plus ou moins aiguës de la poitrine, comme j'ai eu l'occasion de l'observer, soit dans les hôpitaux de Paris, ou ces ouvriers se voient fréquemment, soit dans les manufactures de tabac. Je possède dans mon recueil d'observations cliniques, plusieurs faits curieux en ce genre que j'aurais consignés ici sans la crainte d'être trop long. Ainsi, une substance aussi inutile cause des maux sans nombre, et la mort même à ceux chargés de préparer aux autres la plus insignifiante des jouissances."

"Les ouvriers, occupés ordinairement au tabac, dit Ramazzini, y gagnent des douleurs de tête violentes, des vertiges, des nausées, et des étourneimens continuels. Il s'élève en effet dans cette opération une si grande quantité de parties subtiles, surtout en été, que tous les voisins en sont incommodés, et se plaignent d'envies de vomir. Les chevaux, occupés à tourner la meule (qui râpe la tabac), témoignent l'âcreté nuisible de cette poussière qui voltige, en agitant fréquemment la tête, en toussant et soufflant par les naseaux. Les ouvriers en tabac, ajoute-t-il plus loin, sont en général sans appétit. (Ramazzini *Mal. des Artisans*, traduction de Fourcroy, p. 189). Ce passage indique la nécessité de transporter les ateliers où l'on fabrique le tabac hors des villes à cause des incommodités dont ils peuvent être l'origine : c'est ce qui a lieu je crois, partout en France maintenant ; nous devons pourtant ajouter que l'on finit sinon par s'habituer à ces émanations nuisibles, du moins par

y être moins impressionables, car les ouvriers un peu anciens n'en sont presque plus tourmentés? Fourcroy, dans une note de la traduction citée, indique les ouvriers de la ferme de Cette en Languedoc pour ne s'en trouver aucunement incommodés."

"Il en est de l'abus de tabac comme de celui de toutes les jouissances par irritation, comme de la masturbation, de l'abus des femmes, des liqueurs fortes, etc. Et l'on doit encore être étonné de ne pas lui voir causer des accidens plus nombreux."

"Les parens ne sauraient donc trop s'opposer à la funeste habitude d'user de tabac: souvent on la laisse prendre avec une facilité blâmable, et l'on semble ne pas prévoir tous les maux, tous les chagrins auxquels on livre la jeunesse à qui on laisse contracter cette coutume vicieuse: conseillé souvent avec légèreté pour un coryza ou des douleurs passagères de tête, on continue ensuite d'en prendre le restant de ses jours."

"Les inconvéniens et les dangers attachés à l'usage du tabac ont été si évidens dès l'origine de l'introduction de cette plante en Europe, que des souverains ont cherché à s'opposer à son emploi. Amurat, empereur des Turcs, le grand-duc de Moscovie, le roi de Perse, en défendirent l'usage à leurs sujets sous peine de la vie ou d'avoir le nez coupé. Jaques Stuart, roi d'Angleterre, a fait un traité sur les inconvéniens du tabac. Il y a un bulle d'Urbain VIII. par laquelle il excommunie ceux qui prennent du tabac dans les églises; enfin les savans divisèrent beaucoup au sujet de ce végétal et en blâmerent l'emploi."

142. I have received several communications from

professional friends, strongly indicating the strength and extent of medical testimony against the use of the poisonous weed, and out of these I have selected one sent to me by a physician, who has long enjoyed extensive opportunities of witnessing the very prejudicial effects which tobacco smoking exercises on the digestive organs. "In the course of my professional experience," he writes me, "two or three cases of decided carcinoma of the under-lip, all of which terminated fatally, have come under my care, and which could be unmistakeably traced to a sore, occasioned by a burn from a hot cutty-pipe. But I have had ample opportunities of observing the evil effects which tobacco-smoking produces on the health of the working-classes, and particularly how it operates by disordering the organs of digestion, in occasioning very bad forms of dyspepsia. Several inveterate smokers have been committed to my charge, on whom every species of persuasion, from remonstrance on the part of their relations, to admonition on that of their clergymen, had been used in vain, to induce them to relinquish the habit of smoking, to which they had been long unhappily addicted. They had the sallow, sickly look of individuals in bad health, were attenuated in body, and labored under anorexia, painful digestion, and an irritable state of the nervous system, harassing to their own feelings, and most distressing to those of their family. Although they had resisted every argument and advice tendered by unprofessional parties, I have never failed to succeed in making the most obstinate smoker a convert to my opinion, upon reasoning with him upon the subject, and showing the *modus operandi*

of tobacco, in affecting his health and happiness, by its baneful influence on the process of digestion. And I can revert with much satisfaction to the grateful expressions I have received from many such patients on restoration to health, after following my recommendation 'to give up the use of tobacco,' as you have expressed it, 'for ever.'"

143. The following observations of the learned author of the *Zoonomia*, accord with the medical opinions which I have adduced regarding the injurious effects of tobacco on the digestive organs:—

Darwin, in his *Zoonomia*, vol. ii., page 701, thus observes: "The unwise custom of chewing and smoking tobacco for many hours in a day, not only injures the salivary glands, producing dryness in the mouth when this drug is used, but I suspect that it also produces scirrhus in the pancreas. The use of tobacco in this immoderate degree injures the powers of digestion, by occasioning the patient to spit out that saliva which he ought to swallow; and hence produces that flatulency which the vulgar unfortunately take it to prevent."

At page 80 of the same volume, he says: "I saw what I conjectured to be a tumor of the pancreas with indigestion, and which terminated in the death of the patient. He had been for many years a great consumer of tobacco, in so much, that he chewed that noxious drug all the morning, and smoked it all the afternoon."

144. The following extract is from the *Medical Times and Gazette* of 11th December, 1858:—

"To the Editor of the *Medical Times and Gazette*—  
Sir, I enclose a copy of a circular, which I have found

it necessary to issue, as a caution to the officers of this department. I have seen several, and heard of more such cases occurring among the general public, few of whom are aware of the '*causa tanti mali*.'

“‘*Caution*.—The Medical Officer cautions the men against the practice of smoking short pipes—more particularly those, however, under the name of ‘Meerschaum-washed pipes.’ Several cases of diseases of the throat, gums, and stomach have recently occurred, traceable to this cause. The Meerschaum-washed pipes are frequently, if not always, prepared with powerful mineral acids; and the narcotic oils inhaled through them, exert a more than ordinarily pernicious influence on the health.’

WALLER LEWIS, M. B. Cantab.,

“Medical Officer to Her Majesty’s Post Office.

“4th December, 1858.”

145. I have brought forward, I trust, evidence sufficient to convince the most skeptical, that tobacco is a most deleterious drug, whether used in the form of smoke, snuff, or *quid*—all of which modes of administration, the public, and what is more surprising, the medical profession, seem hitherto to have regarded with most unaccountable nonchalance.

The authorities which I have adduced, condemning tobacco smoking, must be allowed, by every unprejudiced mind, greatly to outweigh, in real value, *all* those brought forward in favor of it, not a few of the latter writings having been *got up* from more than questionable motives.

Since the publication of my third edition, I have received accounts of not a few cases, and have had under my own treatment, several examples of ulceration of the lips, tongue, soft and hard palate, and of the mucous membrane of the cheek — some of these being purely carcinomatous and incurable: and all of which occurred in individuals greatly addicted to smoking tobacco. The number of patients frequenting my surgery in the mornings is upwards of 2000 annually, and these afford me an extensive field of surgical observation in every department. It would appear that the cigar, or pipe, first produces a small blister of the mucous membrane of the mouth, which, being daily irritated by the pungent weed, progressively ulcerates and becomes cancerous. I am decidedly of opinion, that a cigar or pipe, impregnated with this cancerous fluid, is a ready medium to communicate the disease to another person who uses the same cigar or pipe.

THE END.



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