

Practical observations on the use and abuse of tobacco : greatly enlarged from the original communication on the effects of tobacco smoking which appeared in Medical Times and Gazette, August 5, 1854. Accompanied with cases, illustrated by coloured plates, the drawings after nature / by John Lizars.

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to the Author's sincere regards.

8

PRACTICAL OBSERVATIONS

ON THE

USE AND ABUSE

OF

TOBACCO

GREATLY ENLARGED FROM THE ORIGINAL COMMUNICATION ON THE EFFECTS OF
TOBACCO SMOKING

WHICH APPEARED IN MEDICAL TIMES AND GAZETTE, AUGUST 5, 1854.

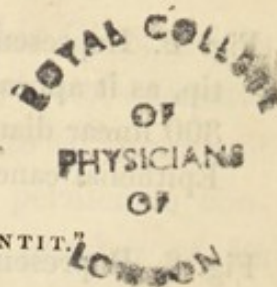
ACCOMPANIED WITH CASES, ILLUSTRATED BY COLOURED PLATES,
THE DRAWINGS AFTER NATURE.

BY

JOHN LIZARS,

LATE PROFESSOR OF SURGERY TO THE ROYAL COLLEGE OF SURGEONS, AND LATELY SENIOR OPERATING
SURGEON TO THE ROYAL INFIRMARY OF EDINBURGH.

SIXTH EDITION.



"QUEM DEUS VULT PERDERE, PRIUS DEMENTIT."

EDINBURGH:

W. H. LIZARS, 3, ST. JAMES' SQUARE.

LONDON: GEORGE PHILIP & SON, 32, FLEET STREET,

AND ALL BOOKSELLERS.

MDCCCLVII.

DESCRIPTION OF THE PLATES.

PLATE I.

Fig. 1. Represents the tongue of Dr. B——'s patient, having a dark spot in the centre of the surface of the tongue, the commencement of the ulceration. See Appendix, p. 34.

Fig. 2. Shows the dreadful ravages of the cancerous ulceration, the anterior half of the tongue having "*mouldered*" or sloughed away. See Appendix, p. 34.

PLATE II.

Fig. 1. Represents the appalling condition of Dr. Tod's patient, Mr. J. T——. *a*, indicates the ulcerated surface of the tongue, eating or sloughing away. *b, b*, swollen cervical glands, which ultimately increased so in magnitude, as to force the tongue out of the mouth, rendering *the countenance too horrible to contemplate*. See Appendix, p. 36, 37.

Fig. 2. Represents a section of the tongue of Mr. J. T——, near the tip, as it appeared in the field of a microscope, having a power of about 300 linear diameters. It presents, generally, the characteristics of the Epithelial cancer, or Epithelioma of Professor Bennett.

Fig. 3. Represents a transverse section of a portion of the tongue of Dr. R——, whose case is detailed in Appendix, p. 38, and copied from Professor Bennett's work on cancerous and canceroid growths. *a*, ulcerated surface. *b*, white condensed epithelial growths. *c*, healthy muscular texture, in which an enlarged and indurated duct may be seen extending posteriorly.

NOTICE TO THE SECOND EDITION.

THE very rapid sale of the first impression has rendered a reprint much sooner necessary than the Author anticipated. He feels, indeed, that no apology is required from him, for annexing the Extracts which he has appended to the Second Edition, in corroboration of his views. Since his Observations were sent to press, he has been informed by an experienced obstetrician in this city, of the antiphrodisiac properties excessive smoking has upon females — an opinion, which the reader will perceive, had been long ago entertained by Amurath the Fourth.

The case recorded by Camden of Bishop Fletcher, proves, at what an early period, in the use of the noxious plant, its fatal effects had been observed in certain constitutions, and in particular circumstances. The Author has the less hesitation in referring to the more modern testimony afforded by Dr. Prout in confirmation of his views, as to the danger of carcinomatous forms of disease being produced by Tobacco Smoking. Perhaps in the wide field of medical research, there is no scientific writer, whose opinion is more valuable than that of Dr. Prout, in reference to all that relates to the assimilation of food, and the induction of the disorders connected with it.

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, 15, SOUTH CHARLOTTE STREET,
1854.

NOTICE TO THIRD EDITION.

THE following extracts from the article Tobacco, contained in the "Dictionnaire des Sciences Medicalés," p. 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 to the Third Edition of my Practical Observations on the very important subject, the Abuse of Tobacco. 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 général maigres, décolorés, jaunes, asthmatiques, sujets aux coliques, au dévoiement, au flux de sang, mais surtout au vertige, à la céphalagie, 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 éternuemens

* Dictionnaire des Sciences Medicalés par un Société de Medecins et de Chirurgiens. Paris, 1821.

continuels. Il s'éleve 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 il's 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 impressionnables, 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, &c. 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 se divisèrent beaucoup au sujet de ce végétal et en blâmerent l'emploi."

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 unmistakably 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 laboured 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.'"

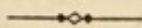
The following observations of the learned author of the *Zoonomia*, accord with the medical opinions which I have adduced regarding the injurious effects of Tobacco on the digestive organs—

Darwin, in his *Zoonomia*, vol. ii. p. 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 schirrhus 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 tumour 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."

JOHN LIZARS.

NOTICE TO FOURTH EDITION.



My Publishers have intimated to me, that another Edition of "Practical Observations on the Use and Abuse of Tobacco," is required. To what extent, these Observations have practically operated on the minds of those who have read them, I have no means of knowing; but I am gratified in recording the testimony of "one repentant sinner," who has been reclaimed from "the error of his ways" by their influence, and who writes to me in the following terms — "After forty-three years' hard smoking, I at once gave it up, on reading your work on the subject, and have been in better health ever since."

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 Nicopolis.

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 stupified with Tobacco. The late expedition of Omer Pacha, from Batoum to Kutais, is graphically described by one of the correspondents of an English journal, where, while the private soldiers were toiling away in dragging the artillery through forests, their officers were *squatted*, smoking their pipes or chibouques! "Tobacco," says the eloquent Burke, "is the delight of Dutchmen, as it diffuses a torpor and pleasing stupefaction." It is stated that Abbas, the first Shah of Persia, in the

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

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.

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

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.

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 didicisse."

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 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.

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 returned always 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."

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.*

Excessive smoking has had no small share in degenerating 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

* Note to Fifth Edition. See Appendix F, p. 30.

† The author of "Confessions of an English Opium Eater," states, that the number of *amateur* opium-eaters in London is immense. And in Man-

men have sought with a kind of phrenzy, 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 this necessity, thus prolongs the duration

chester, 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 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 Lëenchow 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."

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."

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 extraordinary 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. 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. 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.

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 stupified, 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. *

JOHN LIZARS.

EDINBURGH, 15, SOUTH CHARLOTTE STREET,
1856.

NOTICE TO FIFTH EDITION.

THE Fourth Edition of my Observations on Tobacco having been so rapidly sold off, the demand of the Publishers to have an immediate and large additional supply of copies, has rendered it impossible for me to revise this the Fifth Edition; but the following additional facts (see Appendix, Notes F, G, H, I, K, L) cannot fail, I am persuaded, to be both interesting and instructive to the Public.

JOHN LIZARS.

EDINBURGH, 15, SOUTH CHARLOTTE STREET,
1856.

NOTICE TO SIXTH EDITION.

IN this, the Sixth Edition, I have brought forward, I trust, evidence sufficient to convince the most sceptical, 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,

* Note to Fifth Edition. See Appendix G, p. 31.

and what is more surprising, the medical profession seem hitherto to have regarded with most unaccountable nonchalance.

The cases of diseased brain and spinal cord occurring 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.

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.

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 at page 32, note to Sixth Edition. See Appendix M. The reader is also referred to page 22. 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 will be found at page 33, Appendix N, after Mr. Solly's.

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 Mr. 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.

I have given representations of the ulceration of the tongue as it occurred in Dr. B——'s case and Mr. J. T——'s; see Plates I. and II. 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 the 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 for ever.' 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.

I beg to refer the reader to the additional matter contained in this Edition, which I have appended, according to the mode adopted in the Fifth. By so doing, I have been enabled to give fuller extracts, and to publish this Edition at a more moderate price, than if the Notes in the Appendix were blended with the text.

The reader is referred to Appendix, Notes M, N, O, P, Q.

JOHN LIZARS.

EDINBURGH, 15, SOUTH CHARLOTTE STREET,
1857.

* Note to Sixth Edition. See Appendix O, page 34.

† Ibid., Appendix P, p. 36.

‡ Ibid., Appendix O, p. 34.

§ Ibid., Appendix Q, p. 36.

PRACTICAL OBSERVATIONS

ON THE

USE AND ABUSE OF TOBACCO.

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 Sigmond 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.

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 communication 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 of 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 that of one who is affected with scurvy.

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 noxious, 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 labouring 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?”

A remarkable change occurs to the excessive smoker, when he labours 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.

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, 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 exciting 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 ʒij , rhubarb ʒ^{ra} , colomba ʒ^{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.†

Devoted smokers as pertinaciously insist that they cannot give up such a luxury, as the drunkard affirms he cannot relinquish his

* Note to Fifth Edition. See Appendix H, p. 31.

† See Appendix A, p. 25.

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 delirium tremens, and is now a teetotaller, and he has been so for upwards of fifteen years. 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 related as follows 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 for ever.

“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.

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.*

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, mania, loss of memory, amaurosis, deafness, nervousness, palsy, emasculation, and cowardice.†

When a youth commences his apprenticeship to smoking Tobacco, he suffers often the most inconceivably miserable sickness and vomiting—almost as bad as sea-sickness. 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.

"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

* Note to Fifth Edition. See Appendix I, pp. 31, 32.

† See Appendix B, p. 26.

may be certain to see take place the effects nearly identical in violence — giddiness, intoxication, disturbed vision, nausea, vomiting, and frequently diarrhœa.”

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 8 or 10 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.

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

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 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.

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.

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.

Congestion of the brain occurs almost only in 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.

Apoplexy has been taken notice of by several authors, supervening to the smoking of Tobacco:* also to the immoderate use

* See Appendix A, p. 25.

of Snuff, as related by Morgagni; likewise in the *Ephemerides des Curieux de la Nature*, and in the *Journal d'Allemagne* for 1830, p. 179. The treatment here is the same as that for congestion of the brain.*

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 2nd May 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.

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.*"

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, with an obscure light.

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

Nervousness is remarkably common from indulging too much in smoking, snuffing, or chewing Tobacco. It is to be treated by

* Note to Fifth Edition. See Appendix K, p. 32.

“*throwing away Tobacco for ever*”—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.

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

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 they were all excessive smokers; and on convincing them, that Tobacco was the cause of their temporary impotence, they have instantly “*thrown away Tobacco for ever*,” 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*.†

I have invariably found, that patients of this description 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.

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

* Note to Fifth Edition. See Appendix L, p. 32.

† See Appendix C, p. 27.

full extent the human body can be subjected — a cigar has been actually inserted into the anus by an American physician, as a medical re-agent — thus introducing the poison into every vital passage.*

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 pig-tail 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 its way to the Far West. This gentleman was as thin as a razor, with an olive-coloured 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.†

* See Appendix D, p. 27.

† See Appendix F, p. 30.

A P P E N D I X .

A.

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 stupifying 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, especially 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." Professor Petit-Radel is said to have died of cancer of the pylorus, consequent on smoking Tobacco.

Boussiron states, that he has seen many smokers perish of atrophy.

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

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 Ramozzini. 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.

Orfila, in his *General System of Toxicology*, 1817, vol. ii. p. 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.”

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.”

B.

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*, 3rd 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.

C.

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 anti-phrodisiac 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.

D.

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 odour 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 odour 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 vapour 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 Shakespeare as a distillment.

“ Sleeping within mine orchard,
 My custom always of the afternoon,
 Upon my secure hour thy uncle stole,
 With juice of cursed hebenon 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, every thing 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 favour 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 Tobaccos, containing five or six per cent. of nicotin, retain only two per cent. when fully manufactured."

E.

The following extracts are from King James' Counter-blast to Tobacco, pages 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 this following little pamphlet." In the Counter-blast 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 any thing 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 tippling 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.

F.

The following extract is from an able article on the United States, which appeared in the London *Spectator* of 5th July 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 every-where! 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 assertion 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.”

G.

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.”

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.

H.

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, and palate — some of these being purely carcinomatous and incurable. 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.

I.

Dr. Adam Clarke, LL.D., Methodist divine, published among his detached pieces, in 1837, 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 upwards of forty years, was frequently afflicted with a sudden suppression of breathing, occasioned by a paralytic state of the muscles which serve for respiration: 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.”

K.

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.

L.

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.’ ”

M.

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.*

I lately visited a gentleman in a Lunatic Asylum, labouring 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.'

N.

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*, &c. 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."

The cases of insanity mentioned by him "had used Tobacco to excess, though perfectly temperate otherwise, as regarded drink."

The reader is referred to pages 21, 22, and 23 of the text, for further information on mania and the other diseases stated above. Also to Appendix, page 32, letter L.

In the Lancet for 3rd January 1857, page 22, 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 relaxing 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 fre-

quently 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 favourably 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 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 favourable, 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 Appendix A, p. 25, Prout's experience, which in a measure confirms this.

O.

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, drawn by Mr. Stewart at the time. See Plate I. figs. 1 and 2.

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 confectionary,

Fig. 2.

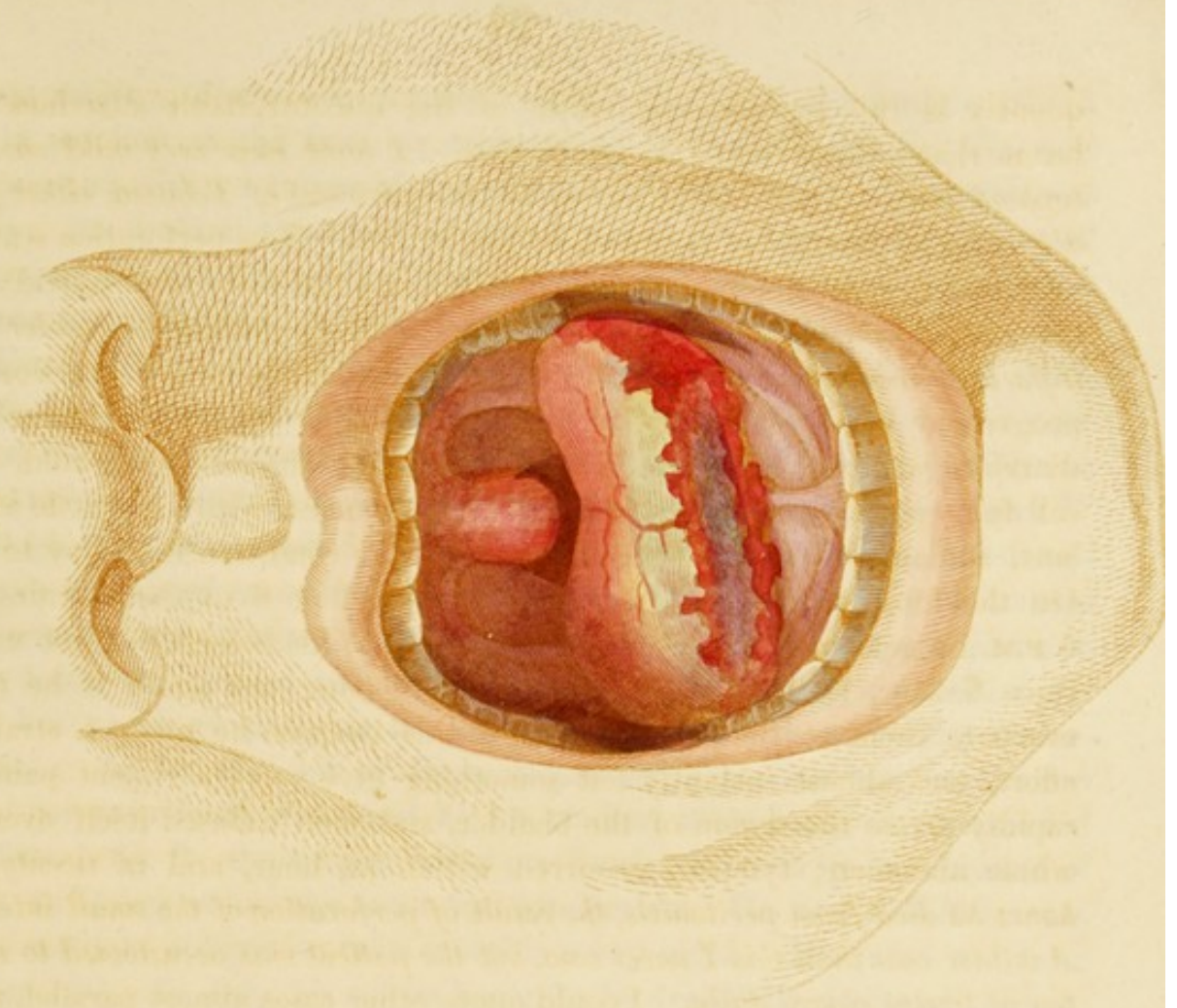
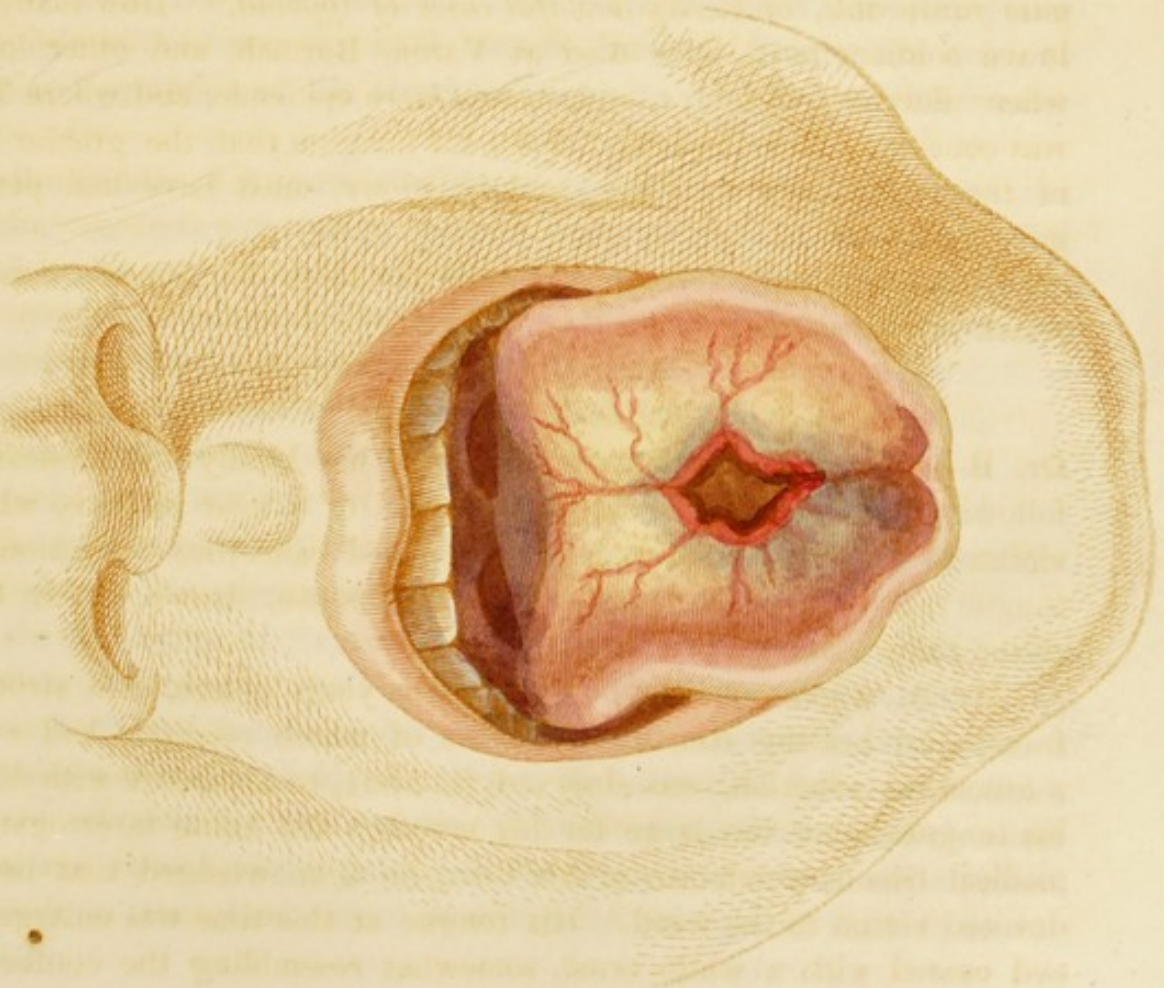


Fig. 1.



named *kisses*. There was a sulcus in the centre of the tongue, with a bright red line at the base, as represented in Plate I. fig. 1. 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 for ever."

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 clapt 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), as represented in Plate I. fig. 2; 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 2nd 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 had ever seen or read of."

Professor Bennett, in his microscopic examination of a section of the late Dr. 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?

P.

A case precisely similar to the preceding I have received from my friend Dr. Tod of Gilmore Place.

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 neighbour 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.

Q.

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 agitated him, he flew to the pipe, and smoked until he trembled nervously. He "threw away Tobacco for ever." 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 sur-

The first part of the paper is devoted to a general discussion of the problem of the distribution of the elements of a finite group. It is shown that the distribution of the elements of a finite group is determined by the structure of the group and the number of its elements. The second part of the paper is devoted to a study of the distribution of the elements of a finite group in terms of the number of their divisors. It is shown that the distribution of the elements of a finite group in terms of the number of their divisors is determined by the structure of the group and the number of its elements.

A case is considered in which the number of divisors of the elements of a finite group is equal to the number of elements of the group. It is shown that this case is possible only for groups of order 1, 2, 3, 4, 6, and 12. The third part of the paper is devoted to a study of the distribution of the elements of a finite group in terms of the number of their prime divisors. It is shown that the distribution of the elements of a finite group in terms of the number of their prime divisors is determined by the structure of the group and the number of its elements.

The fourth part of the paper is devoted to a study of the distribution of the elements of a finite group in terms of the number of their square divisors. It is shown that the distribution of the elements of a finite group in terms of the number of their square divisors is determined by the structure of the group and the number of its elements. The fifth part of the paper is devoted to a study of the distribution of the elements of a finite group in terms of the number of their cube divisors. It is shown that the distribution of the elements of a finite group in terms of the number of their cube divisors is determined by the structure of the group and the number of its elements.

face, 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, 2nd 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, as the drawing shows, see Plate II. fig. 1, involving the right half of the tongue. The drawing was taken on the 1st of October 1856. 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 projecting 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.

22nd. 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 tumour below his chin, as it pointed, and the skin threatened to inflame and ulcerate. Strumous-looking matter, whey coloured, 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.

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 relations, 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 Bennett 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 exhibited 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 cancrroid 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.”

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.

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 cancrroid ulceration, and prove fatal, after lingering and cruel sufferings.

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? 2ndly, 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 semicircular 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 every thing appeared to indicate the existence of loops, not, however, in the simple papillæ, but at their base." Kölliker quotes 'Remark,' who thus states — "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.

The following is an interesting case of amaurosis, or blindness, from smoking Tobacco — J. W., a coachbuilder, 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 laboured under amaurosis, and prescribed accordingly. After following his treatment for some time, and finding himself no better, he visited a neighbouring city, and consulted another 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.

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 pages 20, 21, 22 and 23.

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.

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.

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 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.”

The British soldiers, says Mr. O’Flaherty, had no Tobacco at the battles of Alma, Balaklava, or Inkerman, 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.

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.

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 be able 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.

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."

The best conclusion to this Sixth Edition, are the sentiments of the great Camden.

Camden, in his *Annales rer. Anglicar*, p. 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 *barbarians*, seeing they are delighted with the same thing which the barbarians use."