

Smoking and thinking / [a student of physiology].

Contributors

Student of physiology.

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SMOKE NOT, NO. XXVII.

SMOKING AND THINKING.

CAN blood poisoned by Tobacco smoking give the brain power? In other words does tobacco impair the thinking faculties? Smoking is a habit so common that the enquiry may excite surprise. Since tobacco has got into literature the praise of the pipe has been both said and sung, and not a little fine writing has been expended in eulogy of it as the solace of the weary brain, and the companion of the thinker in his meditative hours. The very frequency of the practice gives interest to the inquiry, and I propose to lay before my readers some data which will enable them to answer the question. And, first, it must be recollected that whatever theory may be held as to ultimate causes, the act of thinking is a mechanical one, dependent for its due performance upon certain physiological conditions. The brain is the instrument of thought, and is a highly complex machine, of which the blood is the motive power. The process of thinking destroys a certain portion of the molecular structure of the brain, which has the power of repairing this waste by selecting appropriate matter from the vital fluid with which it is at short intervals regularly bathed. Hence it will be apparent that the healthy condition of the brain *depends* upon the quality of the blood, by and from which it is sustained.

That which injures or enfeebles the blood must, as a matter of course, affect the health and activity of the brain. If, then, we ascertain the physiological effects of tobacco upon the fluid we shall be in a fair way for deciding the question, especially if we find individual cases confirming the views arrived at. There is nothing stronger in Medical evidence than the agreement of Physiology and Pathology. Dr. Richardson has so clearly explained the influence of smoking upon the blood that it will be best to quote from his graphic evidence.

His scientific eminence, entitles his evidence of facts to respect, and lovers of the weed must recollect that it is a Smoker to whom they are listening.

"On the blood the prolonged inhalation of tobacco produces changes which are very marked in character. The fluid is thinner than is natural, and in extreme cases paler. In some instances the deficient colour of the blood is communicated to the body altogether, rendering the external surface yellowish-white and puffy. The blood being thin also exudes freely, and a cut surface bleeds for a longer time, and may continue to bleed inconveniently even in opposition to remedies. But the most important influence is exerted over those little bodies which float in myriads in the blood, and are known as the *red globules*. These globules have naturally a double concave surface, and at their edges a perfectly smooth outline. They are very soluble in alkalis and are subject to changes of character and shape when the fluid in which they float is modified in respect to density. The absorption, therefore, of



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fumes of tobacco necessarily leads to rapid changes in them ; they lose their round shape, they become oval and irregular, and instead of having a mutual attraction for each other, and running together—a good sign of their physical health—they lie loosely scattered before the eye, and indicate to the learned observer as clearly as though they spoke to him and said the words, that the man from whom they were taken is physically depressed and deplorably deficient both in muscular and mental energy.”

Tobacco modifies the circulation in the brain, as in other portions of the body. Hence it would be remarkable indeed if it did not exercise some influence upon the mechanism of thought. M. Meunier, says “A sincere self observing smoker cannot fail, to recognise that tobacco creates a new being more disposed to dreaming than action.” Although a great smoker himself he considered that the habit was inimical to the national mind. His frequent diatribes against this *mort aux peuples* excited much raillery, but the habit of 20 years was long too strong for him. So close was the connection between work and smoke with M. Meunier, that the amount of intellectual labour he had performed was chronicled by the extent of his consumption of tobacco. When at last, after many fruitless attempts, he put his conduct in harmony with his opinions, it required several weeks of undivided attention to break the chain of habit which bound him.

The mode by which nicotine acts upon the blood-vessels explains the apparent contradiction, that it should be able to excite into momentary activity an organ which it has enfeebled and stupefied. The excitement and over-activity which it causes in the contractile apparatus of the walls of the blood-vessels are quickly followed by general fatigue, which is only a modified paralysis.

Thinking, as we have seen, is closely related with the cerebral circulation. When, by continual usage, the muscular tissue of the blood-vessels has become gradually benumbed, the blood, in place of its natural rapid flow, circulates slowly and sluggishly, and the functional energy of the brain is diminished. But with a new exhibition of the stimulant the muscular contractility is again excited, the circulation becomes quicker, the brain, abundantly and regularly bathed by the life-blood, takes up again its functions, the brain power increases, ideas flow with greater rapidity. But the activity thus produced cannot last. With this stimulation, disappear the brilliant results which it had produced, and the organ falls into a relaxed condition from which only increased doses can temporarily rescue it. One of the results upon the brain is the loss of memory. Many authors have noticed this fact. The case of l'Abbé Moigno, the celebrated editor of *Les Mondes*, is very curious. He had often been in the habit of taking snuff, which had always led to prejudicial results. After various temporary renunciations he had returned to its use. In 1861, whilst engaged in some mathematical labours, he took from 20 to 25 grammes daily, and found himself continually having recourse to the snuff-box. The effect was a rapid extinction of the faculty of memory. He had learned several languages, by their root words, of which he knew from 1,200 to 1,500 of each tongue, but he found that his power of recalling these words was gradually diminishing. Struck with this fact he resolved to abandon

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the *tabatière* and cigar. Writing after six years' experience as a non-smoker, he says:—"It has been for us the commencement of a veritable resurrection of health, mind, and memory: our ideas have become more lucid, our imagination more vivid, our work easier, our pen quicker, and we have seen that army of words gradually return which had run away. Our memory, in a word, has recovered all its riches, all its sensibility. That Tobacco, especially in the form of Snuff, is a personal enemy of memory, which it has destroyed little by little, and sometimes very promptly, cannot be doubted. Many persons with whom we are acquainted—M. Dubrunfaut, the celebrated chemist, for example—have run the same dangers, and escaped them in the same way by renouncing Tobacco, which we do not hesitate to say, harms the greater part of those who employ it. Since, for one smoker or snuffer who uses it, there are ninety-nine who abuse it."

Memory depends upon the vigour and health of the nervous system. It is likely to be impaired by whatever causes unhealthy excitement and nervous waste. Hence if the smoker's memory fail, it may be considered as one symptom of general injury of the nervous centres from which arise other ills. The perceptive faculties become coarser and this leads to hallucination. Blatin quotes from Ehrhart some curious cases of this nature:—M. X., 46 years old, of nervo-sanguine temperament, and apparent good health, had often experienced embarrassment in speech and motion after indulging in tobacco. One fine day in the country, when the air was calm, and the sun was shining brightly, he was astonished to see a heavy rain shower which appeared to be driven towards him by a violent wind. He extended his hand, no drops were falling, his clothes were quite dry; but at the same moment he was struck with violent palpitation. He threw away his cigar, the violent beating of his heart ceased, and the vision disappeared. Many times this phenomenon recurred. He abandoned tobacco and the accidents quickly vanished. Thinking himself perfectly cured, he commenced again to smoke, but the palpitations and visions reappeared. Complete abstinence was his only safety. The step from temporary hallucination to chronic lunacy is not very great; and we find on record the case of a man who became insane, and whose recovery was due to a lucky accident which barred him from access to his usual indulgence. Druhen narrates another noteworthy case. A middle aged man, in good health and of steady habits was sent by his employer to Paris, charged with papers of considerable value. The importance of the trust preyed very much upon his imagination, and led to an attack of melancholy mania. He was under medical treatment for about three weeks, during which time his natural desire for tobacco disappeared. On his recovery he again commenced smoking moderately. A few months after, another attack commenced, and he began to talk once more of the (imaginary) risks and dangers he had encountered on his journey to Paris. Druhen saw he was upon the brink of insanity, and his first prescription was "no tobacco." Under this régime the man has since enjoyed the best health.

These facts, although curious, are not entirely decisive; for in judging by individual cases there is always a risk of mistaking the

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exception for the rule. There are, however, data of a more absolutely convincing nature, which we commend to the careful consideration of young smokers and—their parents.

In 1855 M. Bertillion divided the 160 pupils of the Paris Ecole Polytechnique into smokers and non-smokers, with a view of testing the question. The result in the examinations has been thus stated:—

			Smokers.	Non-Smokers.
Of the 20 who stood highest there were...			6	14
Do.	do.	next...	10	10
Do.	do.	do. ...	11	9
Do.	do.	do. ...	14	6
Do.	do.	do. ...	13	7
Do.	do.	do. ...	15	5
Do.	do.	do. ...	16	4
Do.	do.	do. ...	17	3
			102	58

An examination of this table will show that whilst the non-smoking pupils exhibit a steady upward tendency, the contrary is the case with the smokers. Although the majority in numbers, they were, the minority in intellectual attainments. The contrast is most instructive, and demonstrates conclusively the deadening influence of this popular narcotic upon the functional activity of the brain. If tobacco were, as its apologists sometimes claim, the handmaid of thought, a very different result might have ensued. Dr. Murray, of Newcastle, who is not an opponent, but a defender of smoking, says:—"My own personal experience and observation among medical students is supported by the result of examinations for Law and Divinity, smokers having been found behind non-smokers in mental calibre. So long ago as 1606, a Medical writer says:—"Tobacco is not safe for the young, and should be called youth's bane." Sir Benjamin Brodie, from the result of experiments upon animals, affirms that the oil of tobacco acts by destroying the functions of the brain. This, of course, refers to its administration as a poison, but who can think with coolness upon our youth voluntarily sapping the vigour of their brains—the only organ in which we excel(?) the brute creation, and thus wearing out their nervous system ere they have fairly entered upon the important duties of life."

It will be seen that Medical science and statistics confirm by a *posteriori* evidence that which physiology would lead us to expect on a *priori* ground. It would be folly to suppose that the brain, with all its minutely wonderful mechanism, should not be injured by continual contact with blood, weakened and deteriorated—poisoned—by contact with the deadly principles evolved in smoking tobacco. Smoking is now so common amongst persons of unformed constitutions that the facts here detailed acquire a grave importance. *If juvenile smoking continues and extends, we may look for generations endowed with weaker brains and duller intellects in a continued series of degradations.* Let those who would not have our brave, bright, English lads degenerate into a race of dyspeptic dullards, warn them, as they wish for the full exercise of that power to think which is their greatest privilege and glory, as they hope for clear heads and unclouded brains, to resist the dreamy seductions of tobacco.

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