

Some observations on the medicinal and dietetic properties of green tea : and particularly on the controlling influence it exerts over irritation of the brain / by W. Newnham.

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G R E E N T E A

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SOME OBSERVATIONS
ON THE
MEDICINAL AND DIETETIC PROPERTIES
OF
GREEN TEA,
AND PARTICULARLY ON THE CONTROULING
INFLUENCE IT EXERTS
OVER
IRRITATION OF THE BRAIN.

BY
W. NEWNHAM, Esq.
AUTHOR OF AN ESSAY ON INVERSIO UTERI, &c. &c.

LONDON:
J. HATCHARD AND SON, 187, PICCADILLY.
MDCCCXXVII.



LONDON:
IBOTSON AND PALMER, PRINTERS, SAVOY STREET, STRAND.

TO
SIR ASTLEY COOPER, BART.

&c. &c. &c.

My dear Sir,

ALLOW me to inscribe the following pages to yourself, as a trifling expression of my very high esteem for your professional character, and as a mark of gratitude for the many instances of your long and tried friendship.

I have the honour to be,

MY DEAR SIR,

Your obliged,

And grateful

WILLIAM NEWNHAM.

Farnham, March 19, 1827.

TO

SIR ASTLEY COOPER, BART.

Dear Sir

Allow me to inscribe the following
pages to yourself as a trifling expression
of my esteem and gratitude for the
many favours you have been pleased
to bestow upon me. I have the honour
to be, Sir, your obedient servant,
WILLIAM NEWNHAM

Your obliged servant

to be desired, and ask what services on my part
I may be able to perform for you.

And grateful
to the
to the
to the

ESSAY
ON
GREEN TEA,
&c.

THERE is generally some degree of truth, as a foundation for common remarks; and however this may be enveloped in the clouds of ignorance, or obscured by the mists of prejudice,—still the common sense of mankind will seldom admit to a permanent recognition, that which is wholly and entirely false: and before a prudent inquirer rejects apparently vulgar errors, as utterly baseless and worthless, he will do well to hesitate, and ask what *semblance* of truth at least, had *first* given *currency* and consistency to opinions, which appear in the present age, only in the garb of prejudice, and are generally associated with ignorance and vulgarity.

It is curious to remark, that the *rejection* of

all these deductions as spurious, is in itself a *prejudice*; a prejudice as complete and as operative, as the very principle it professes to discard, as the result of a similar and irrational influence. Let it be remembered, however, that the term prejudice may be accepted in a good, as well as in a bad sense; that under the former meaning will be classed the best part of early education; and that the implantation of principles, which have resulted from the accumulated wisdom of preceding ages, in the minds of children, before they are capable of working out those principles by their own efforts, is, in fact, an operation of prejudice. A wise man will pause, before he dismisses as *untrue*, all that meets him in this unsightly form; and recollecting that, “*fas est et ab hoste doceri*,” he will endeavour to ascertain, what *first* originated the erroneous idea, if it be erroneous; and what gave it such an extensive sway over the mind, that it came to be acknowledged by the vulgar, as an independent and unquestioned truth. Doubtless, he will often smile at the distant and incongruous association,—the slight, and really illogical concatenation of ideas, which has led to this result; but *every where*, he will find a basis of observation, if not founded on truth, at least resting on that which *seemed to be such*. And

when he remembers, that the falling of an apple was the first link in the chain of the doctrine of gravitation, and all its magnificent results, with many other elucidations of the same principle, which might be mentioned, he will surely not despise *any* of the associations of human intellect.

Thus it is with the substance, which forms the object of the following observations. Vulgar prejudice meets our notice in two very different shapes:—the first, in which a cup of green tea is recommended as a sovereign remedy for headache;—the second, in which it is accused of exerting a noxious influence upon the animal machine, particularly upon the nervous system, and giving rise to unconquerable wakefulness. And when we recollect the philosopher's experiment upon green tea, and the unfavourable conclusions which he drew, from finding that the hair of a pig's tail was separated by immersion in an infusion of this plant,—forgetting to repeat the experiment upon simple warm water at the same temperature;—we may surely view these common opinions with benevolent compassion at least, even if we prove them to be false. But the simple truth will probably be found to consist in this, viz. that in one particular state of the system, green tea produces a *salutary*, while

in another and an opposite condition, it exerts a *noxious* influence upon the brain and nervous system; and we will endeavour to ascertain the cause of this variety.

The term headache is familiarly applied to all kinds of encephalic uneasiness, whether arising from morbid action developed in the substance of the brain,—or to irritation of its investing membranes, as well as to various affections resulting from its extensive sympathies,—or operating exclusively upon the muscular and other coverings of the bony structure by which it is encompassed and defended. Like most other remedies, indiscriminately and empirically employed, green tea must often fail in relieving these several indispositions; and it will be found that the particular (and certainly the more common) condition of the brain, in which the infusion of this plant will be useful, *is that, in which there is an increased action of its vessels, with more or less of power to support it*; or, in other words, in a state of *sthenic excitement* of the organ. Thus, green tea is found to be particularly useful in the headache produced by the stimulation of alcoholic fluids: and in a similar affection, arising from intense and long-continued application of the mind to any particular object of literary research: and there are few who have

not experienced its salutary influence under such circumstances, in soothing the irritation, which is a consequence of over action—calming the nervous system—invigorating the animal frame—refreshing the jaded spirits—clearing the ideas—brightening the faculties—and so far recruiting the energies of the brain, as to render it again a willing and obedient organ to the indefatigable and immaterial intelligence which presides over its functions:—

“ I puer, i, Theam confestim in pocula misce ;
 Urget non solitus lumina nostra sopor ;
 Mens stupet ;—obtusæ languent in corpore vires ;
 Languorem solvet vivida Thea novum.”*

Many a literary character has experienced the blessings of green tea, though, perhaps, none, like the venerable bishop, (who was a great tea drinker, certainly, from the year 1678, to his death, in 1720, ætat. 90,) has celebrated its virtues in strains so elegant, as in the little poem, of which the opening verses have been just quoted.

If, then, green tea be a valuable *remedy*, in a state of sthenic vascular excitement of the brain, it will not be wonderful that its influence

* Huetii Commentarius de rebus ad eum pertinentibus, p. 304. Amstelodami, 1718.

should be baneful, where this condition is wanting—more particularly where the very opposite is found to exist. And it will be observed, upon inquiry, that the difference between the individuals just mentioned, who always obtain the most refreshing and quiet sleep, after drinking green tea; and those who complain of insurmountable vigilance, or of disturbed and unquiet slumbers from similar potations, consists precisely in the *absence of this brainular irritation*. Thus, females, endued with a high degree of *mobility* of the nervous system, but existing independently of any *sthenic* excitement,—and males, in whom the *asthenic* diathesis prevails, are they who generally complain of these disagreeable consequences. Thus, too, in the cases mentioned by Dr. Percival, in the first volume of the Dublin Hospital Reports, great bodily fatigue having produced exhaustion, and consequent diminished excitability of the sentient organ, together with the intemperate use of this beverage, seem to have contributed to the distressing symptoms which followed. A similar in-energetic state of the brain will be observed in one of the following cases :—

But the value of the remedy will not be diminished by ascertaining the instances in which it will be injurious, or the dose which will prove

excessive. On the contrary, that which is affirmed to be good for *every thing*, may be safely set down as good for *nothing*; and it is only by repeated observation and experience, that we *can* become acquainted with the powers and efficacy of any remedial agent—the dangers which attend its exhibition, or the caution with which it ought to be administered. The subsequent cases and experiments will serve to illustrate these positions, and may, perhaps, lead to some useful deductions, to be established or destroyed, as they shall merit, by future more extended observations.

1. The Reverend Mr. Jenkins, late of Hinckley, in Leicestershire, took tea with the author in the spring of the year 1811, and drank pretty freely of *strong green tea*. About four months previously, he had experienced an attack of paralysis, from which he had only imperfectly recovered; he was also more than sixty years of age. Moreover, the vigour of his intellect had been considerably impaired, and he fell a victim to a return of the malady, about two years afterwards. At that time, I was resident in the Borough; and, after tea, Mr. Jenkins returned to the friend's house in the city, where he was visiting. The next morning he very good humouredly said to me,—“Why, you almost killed me with

your green tea yesterday ; I was as tipsy as could be. I was so giddy, I could scarcely stagger at all. I could recollect nothing distinctly. It was with the utmost difficulty I could find out the house whither I was going ; and when, at length, I did get in doors, I could not make them comprehend what I wanted, because I could not express it correctly. I felt as if in danger of fainting ; there was an oppressive load and anxiety about my heart ; and I do believe I should have died, if they had not given me some *brandy*. But I am scarcely myself, even now ; for I had an uneasy night, and am very shaky to-day." This may be considered as an instance of the noxious influence of this herb ; and the previous history of the patient, his age, and the subsequent termination of his life, clearly point out *the enfeebled energy of the brain*, together with the congested and sluggish state of its circulation, which has been considered as the *condition contra-indicating* its exhibition.

2. The next case is one in which green tea was exhibited as a medicinal agent, and one which must be, therefore, slightly sketched.

I was requested to visit Mrs. Whicher, of Petersfield, about the middle of October, 1819. She had been thrown from a gig, on the 15th of

that month, and had suffered *concussion of the brain*, among other serious, but less important injuries. She had remained in a state of insensibility for thirty-six hours, after which delirium alternated with transient and fitful gleams of approaching reason. I found her on the 18th, delirious, her pulse hard and contracted, with an occasional feeble stroke almost amounting to intermission, her tongue furred and dry, her skin hot, and her bowels rather costive; she was suffering from great pain in the head, exquisite intolerance of light, contracted pupil, injected conjunctiva, swollen palpebræ, and disposition to be drowsy; nausea and vomiting were also present, though less severely so, than for the first two days after her accident. She was largely bled, very freely purged, and, in the evening, a number of leeches were applied.

On the 19th, the appearance of the blood drawn on the preceding day, was buffy, and much cupped, with a proportionally large, and very firm crassamentum. Her pulse was hard, though more expanded than at my former visit; the pain of the head was still exquisite; there was the same intolerance of light, heat of skin, thirst, &c.—My patient was again bled largely; faintness succeeded the operation, both on this, and on the former occasion. The blood drawn

exhibited the same appearances, and she was continued upon a system of purgatives, and of the most rigid abstinence.

On the 20th, Mrs. Whicher's delirium had increased; the pain in her head was still intense, but her pulse was softer, and her skin moister; she had experienced less thirst, but, at intervals, since yesterday, had suffered a great deal from faintness. She was altogether in a very precarious state. She was now directed to take some *strong green tea*, with the view of arresting the inordinate action of the cerebral vessels, which still continued. The exact effect will be best shewn by an extract from a letter of my old friend Whicher.

“ You will recollect, that the dose of green tea given to my wife, was a very strong one. The effect was exactly such as you describe; the pulse was fluttering; palpitation and a *sensation* of faintness succeeded; a cold dew was on her skin; and from a constant muttering and confusion of ideas, (never since her accident, having been able to follow up any train of ideas, or pursue a single one beyond its first impression,) she became calm and *remarkably collected*; she sent for me,—told me she felt herself dying,—expressed her wishes to me concerning her child, and other matters, and took leave of her

friends, sending messages to the absent ones ;— she then begged to be left with me, and as she held my hand, she at last gently slept ;—I, all the time observing that the pulse became, at intervals, more regular, and increased too in force. All this took up about two hours, and she gradually got better from that period ; but after the effect of the tea went off, there was not for some time, the clear and decided state of mind which was *then* present. I should observe that, afterwards, she had no recollection of what passed during the influence of the tea.”

At my visit on the 21st, I found my patient better ; her headache was less severe, and she had much less intolerance of light ; she conversed with me more rationally than before ; her pulse was broader, fuller, and firmer, her tongue cleaner, the pupil more dilated, the conjunctiva clearer, and altogether she was much improved. I shall not continue to transcribe farther, my notes of this case :—suffice it only to say that my patient continued improving, and in a short time I had the satisfaction of seeing this most valuable lady restored to her family and friends. I ought not, however, to omit stating, that, during all this time, the process of gestation was going on.

And since every fact illustrative of the functions of the brain is worth preserving, I will add,

that the first recollection of her accident occurred to her *in a dream*, which she related to her husband *as such*, and detailed circumstantially too, the precise accident which had actually occurred, though, at the time, she was not aware of its reality. A case more strikingly illustrative of the beneficial agency of green tea cannot well be met with; but here it will be seen, that there existed *still*, that degree of sthenic excitement, which we have considered necessary. Whether a smaller dose might not have produced *equally* beneficial consequences, without so considerable and distressing effects, I leave to future enquirers to decide: my object being now to exhibit fairly the operation of the remedy; and to shew that, *during this controuling influence, however great*, the balance of the constitution was restored, and healthy actions commenced.

3. The peculiar property of the organ of mind, above mentioned, by which, on the restoration of its healthy state, it was enabled to resume the thread of its manifestations, precisely at the very point at which they had been interrupted, induces the author to allude in this place to a somewhat analogous case, which occurred to him a few years since, in the person of a child, four years old, who, on recovering with difficulty, from an attack of hydrocephalus, had *entirely*

lost the memory of language, and had to learn anew the simplest terms. He proved, indeed, a very apt scholar, but it was months before he had regained what he had lost, and this he had to acquire in the same gradual and simple manner as an infant.

In this malady, (acute irritation of the membranes of the brain of children,) the efficacy of green tea has been most strongly marked. Exhibited during the early symptoms, as soon as a sufficient quantity of blood has been taken away, and before the primary irritation has terminated in serous effusion, it has proved a much more powerful means than any other we possess, of controuling that morbid action, which, if suffered to proceed to its second stage, is scarcely to be overtaken by any method of treatment. It is not intended to hold up this medicine, as the only remedy in such cases; the author is fully aware of the importance of attending to the morbid actions of the digestive function, but he believes that these are *often* a consequence, rather than a cause of the brainular excitement, and that the former will be frequently prevented or superseded by arresting the latter.

4. In the commencement of the cerebral disturbance, attendant upon the continued fever of this country, and, indeed, so long as that exci-

tation is continued, without any marked loss of power to support it, a cold infusion of green tea has not only proved a most grateful beverage to the patient, but has shewn itself as an invaluable remedy, in relieving that inordinate action during the continuance of which, all the functions of the system must be impaired or depraved, and the equilibrium of health cannot be restored. Thus has it often produced quiet sleep, when great vigilance had preceded, and where opium could not with propriety have been exhibited; it has allayed the irritability of excitement, and *refreshing* slumber has been the consequence. It is well known how important it is to procure sleep under these circumstances; and how infinitely to be preferred is a short interval of calm repose to a much longer period of heavy slumber, produced by the agency of opium, at the fearful risk of congested brain, and all its miserable consequences. Green tea, as has been before remarked, with regard to hydrocephalus, is not to be the unique remedy, and particularly is it not to supersede local depletion, and the application of cold evaporating lotions, but it is an adjuvant of the highest promise. It must be confessed, that, in some instances, a high degree of wakefulness has appeared to follow its use, but this has been in those cases which bordered

too closely on an asthenic state; and it will be seen hereafter, that this symptom may be removed by opium, ammonia, or some alcoholic stimulant.

5. The next and only other case to be adduced, is that of the author himself, and it will not be the less valuable, as coming from a patient, who, though most deeply interested in the event, could yet watch the agency of the remedy upon his symptoms, with a degree of dispassionate calm, which the physical temperament of *all*, does not permit them to enjoy.

During the spring and summer of the year 1822, I was attacked by increased arterial action of the cerebral vessels, for which I was twice bled largely, besides repeated leeching, and the uniform pursuit of a strictly antiphlogistic system of diet and medicine. But the distressing headache, throbbing of the carotid arteries, &c. were only *palliated*, not dissipated by these means. Nor is this wonderful; for the malady had been slowly creeping upon me for a very long time, and had only been roused into the state of acute suffering, by a course of intemperate study. Having often formerly found relief from taking green tea, for less severe headache, I determined upon giving it a trial. The pain was very intense, when I first employed the remedy, and

I never shall forget its effects. It was a strong infusion, and very soon after I had swallowed it, the severity of the pain was diminished, and a delightful calm stole upon me. This was accompanied with considerable exhilaration of spirits, but I am unable to say, if this arose from the pleasing consciousness of diminished suffering, and of being in possession of an agent, capable of controuling the excessive action of the cerebral vessels, or from the immediate effect upon the brain, of the agent itself.

This quiet calm speedily gave way to a variety of very painful sensations ; an almost insupportable anxiety about the præcordia, palpitation and fluttering of the heart, general tremor, and a peculiar distress, which I have always found it impossible to define or describe by words. During all this time my spirits did not forsake me ; for I felt that my head was better, and I had suffered so much and so long from the state of that organ, that to obtain a prospect of relief, was a source of unspeakable pleasure. My friends saw, and were alarmed by the effect of the tea, but I assured them I was better, and that I would, on no account, exchange my present distress, for the dominion of my old enemy, headache. The symptoms of agitation gradually subsided, and I slept that night with a greater

degree of quiet than before. During the progress of my illness, I again had recourse, daily, for some time, to the same remedy, and always with the effect of quieting the excitement, as well as with the recurrence of the same symptoms of anxiety and oppression, but in a minor degree of intensity. It appeared to me, that its first and immediate influence was exerted on the brain, and that the centre of the vascular system was affected secondarily, and as a consequence of such influence. The circumstances related, will, however, clearly prove, that the agency of this infusion, in arresting cerebral excitement, is very considerable, and that it is well deserving the attention of the profession.

This sketch would scarcely be complete, unless I were to state the effect of green tea upon myself, subsequent to my restoration to health. Having now for some years lost all traces of my former headaches, there has been no brainular irritation to subdue, consequently the remedy has been taken rather as a luxury than a medicine, and only at my usual hour of drinking tea, about nine o'clock. When this has been the case under common circumstances, it has generally happened that slight symptoms of præcordial anxiety, and a very wakeful night have followed; but if the brain shall have been more than ordi-

narily excited by any animated conversation during the evening, or by late and close attention to connected thought, the uneasiness about the heart has vanished, and the sleep has been most refreshing.

Thus satisfied of the salutary influence of green tea, upon a peculiar morbid action of the cerebral system, I felt anxious to inquire, what would be its effect during a state of health, and I determined on submitting myself and my pupils, Mr. Carter and Mr. Nichols, to its influence. I had taken care that the latter gentlemen should not be informed of the effects which might be expected from the experiment, in order that I might secure an unbiassed report of their sensations.

An ounce of the very best gunpowder tea was infused in a pint of boiling water, for twenty minutes, and divided into three portions, of which each took one. On myself, the symptoms produced were precisely such as have been before described, except that as there was no disease to combat, so, consequently, the delightful sensation arising from the controul of such malady was wanting. Hence, I experienced all the anxiety and oppression, with less of the pleasurable feeling, but I could not mistake the old effects, although they were not so violent in

degree. My pulse, which before taking the tea was perfectly regular at eighty strokes in the minute, was at first quickened, and rendered fuller, but in fifteen minutes it had again fallen to eighty, and had become very irregular and intermitting; in half an hour it had fallen to seventy-six, and continued exceedingly irregular: a feeling of anxiety oppressed the heart, and a general tremor had come on, and remained for some hours, and indeed, to a certain extent, for the remainder of the day. The same experiment repeated ten days afterwards was attended with precisely similar results.

On Mr. Carter, the immediate effect upon the pulse was that of quickening it; but it afterwards fell below its natural standard, and became irregular, and intermitting. The sensations he described to me, were those of temporary exaltation; “he felt a greater degree of confidence in himself,”—which, however, quickly gave way to oppression and anxiety about the heart, palpitation, a slight degree of nausea, general tremor, and a feeling of debility, as if his knees refused to do their office, in supporting the body;—all circumstances which, as an independent and unsophisticated testimony, go far towards confirming the position before laid down, that the agency of green tea is exerted princi-

pally on the nervous system, and through it upon the several functions of the animal machine.

The influence of this medicine in controuling the inordinate excitement of the vessels of the brain, was even more particularly elucidated in the case of Mr. Nichols. Without being aware that it might have any effect upon the experiment, this gentleman had taken for his lunch, about an hour previously, some Edinburgh ale. His pulse was at *ninety-two*, with a hurried, vibrating action; but shortly after taking the tea, it was reduced to *eighty-four*, and even *eighty*, while his feelings were *those only of increased comfort*. Disposed to smile at his fellow pupil's uneasiness, and to ascribe *it* to peculiarity of constitution, he came to a repetition of the experiment with great pleasure. But on this occasion, no potation of Edinburgh ale had preceded that of the tea; his pulse was as before, considerably reduced in frequency, and became very feeble and fluttering; while his sensations of uneasiness about the heart, general tremor, and debility, were not a little distressing to him for some hours, and scarcely even completely subsided during the remainder of the day. The sequel of my pupil's history is too characteristically illustrative of the mutual action and reaction of green tea, and alcoholic stimuli, to be omitted.

It so chanced, that during a few months residence with me last summer, I was in the frequent habit of taking green tea in the evening. Upon these occasions, he invariably complained next morning of a wretched, sleepless, and miserable night. I took this opportunity of watching the influence of wine and strong beer upon this state of nervous irritability; and whenever either of these were taken after a cup of green tea, the wakefulness and general distress were not present.

It is proper to remark, that these results cannot have been influenced by the quantity of the hot water in which this agent was administered, since, except in the case of Mr. Jenkins, this has never exceeded one tea-cup full, or about four ounces.

Reasoning upon the result of these experiments, it will follow—

That green tea is not an inert article of diet, or an inefficient medicine; and that its employment as a simple luxury, or as a remedy, is not a matter of *indifference*, since it is capable of producing much good or evil, according to the existence or absence of a peculiar state of the physical system:—

That the condition best suited to its remedial agency is that in which there will be found a hypersthenic excitement of the arterial system of

the brain, while its employment is particularly contra-indicated by the absence of this state—by the existence of a high degree of nervous irritability—and by any marked tendency to congestion in the cerebral veins :—

That as an article of diet, it should be avoided by all those who possess a considerable degree of nervous susceptibility, and especially if it has been found on former trials to occasion wakefulness, and that peculiar distress about the heart, which, though difficult to describe, is well known to all those on whom this valuable remedy has acted as a poison :—

That, on the contrary, it offers a resource of unspeakable value to those whose brain is liable from physical predisposition, or subsequent habits of life, to easy over-excitement, and especially to the literary character, who will find it a material adjuvant to his studies, enabling him to attend more closely, to perceive more accurately, to associate more logically, to reason more profoundly, to judge more correctly, to imagine with a greater degree of brilliance,—to follow out connected trains of argument, to elaborate more distinctly, and to fill up the outlines of thought with a greater degree of justness, and vigour, and precision, and harmony :—

That the method by which green tea appears to accomplish this great good, is by keeping un-

der the tendency to over-action of the vessels of the brain,—thereby preventing that state of irritation which rapidly leads to debility and exhaustion, and in so far as it does so, impairs the power of the intellectual organ, and destroys its aptitude for the performance of its highest functions; a consequence so palpable, that the author will venture to affirm, that at any future period, the literary individual will be able to detect among his papers, such as were written under the influence of this agent, by the greater vigour with which they will be characterized:—

That this is true, however, only of those who abstain from alcoholic stimuli; for it has been shown, that they who cannot naturally take green tea with impunity, may be made to do so by a preceding dose of such stimulus; and that its disagreeable effects may be counteracted by a similar potation; consequently, that its beneficial agency is not to be expected, (at least not to the same extent,) upon a brain already excited by stimulating liquors:—

That under the influence of wine, or of any other cause of brainular excitation, green tea will operate as a balm, provided that excitation has not been so long continued as to exhaust the power by which it is to be supported; and that where this agent has been exhibited under improper circumstances, or in an inordinate quan-

tity, so as to act as a poison upon the system, wine, beer, brandy, and opium, will become the appropriate antidotes :—

That given as a medicine, its agency in arresting inordinate cerebral excitement is very considerable; and that its action is primarily evidenced upon the nervous system, and subsequently upon the heart and arteries :—

That its exhibition is contra-indicated by the prevalence of the asthenic diathesis; and consequently that it should not be given to individuals far advanced in life, in whom the state of venous plethora is strongly marked, especially if they shall have precedingly suffered from morbid irritation of the brain, apoplexy, paralysis, &c. :—

That where it has been exhibited with due caution, and under the prescribed limitation, its effects, though violent, need not be dreaded, but will prove beneficial in restoring that equilibrium to the vascular system, which it has lost; but that, should its medicinal agency require to be arrested, it may be controuled by the judicious administration of alcoholic stimuli.

That it is a remedy of great power in all diseases attended by excited brainular action, accompanied by a sufficient degree of power to sustain it; since, in all these cases, the brain either as a cause, or a consequence, will have been irritated,—and this irritation will be al-

laid by it; but that, when the powers of life are already much exhausted, although the morbid actions may continue, it cannot be given without considerable danger.

As a local agent, green tea appears to possess sedative and astringent properties; and after repeated experience, the author is enabled confidently to state, that no other remedy we possess, is so capable of diminishing, and arresting leucorrhœa, and other similar discharges.

In the foregoing observations and experiments, *green tea* only has been mentioned; and the form in which that has been used invariably, has been a strong infusion of gunpowder tea—the best that can be procured in this country. How far other tea might produce analogous effects, it is not within the limits of this Essay to decide. There can be no question, however, that these effects would be much *weaker*; and, as a medicine, the best specimen of this herb is always to be preferred.

Perhaps it may not be altogether irrelevant to notice here, the principal varieties of this article, as far as they have been permitted to transpire. The great difference observable between green and black tea, is attributable, probably, in part, to the greater or less degree of attention bestowed upon the cultivation of the plants; but, chiefly, to the age of the leaves

when gathered, to the length of time they are suffered to remain in boiling water, and to the degree of heat subsequently employed in drying them.

Of the several varieties of green tea, that which is called *imperial* is the best, and is never to be found in Europe, being destined for the consumption of the Emperor of China, his family, and friends. The *gunpowder tea*, and more particularly its finest specimens, and very fine *hyson tea*, are those which deserve professional attention. Of the remaining kinds of *green*, and of the *several varieties of black tea*, as being inferior in efficacy, and not necessarily connected with the object of this Essay, nothing will be said.

The *imperial* tea is gathered early in the season, when the leaves have only just begun to show themselves, and before they are completely developed. The *gunpowder and hyson teas*, are gathered a month later; and at this time, there is a great difference in the size and degree of development of the leaves; all, however, are gathered indiscriminately, but the younger and smaller ones, are afterwards carefully selected, and form the very best green teas of commerce: the remaining leaves, as well as those obtained at the third gathering, (two months after the second,) according to their age, maturity, and

goodness, constitute the coarser varieties of *green*, and the several specimens of *black* tea.

This selection having been made, the leaves are immersed in boiling water, for a short space of time; after which, they are placed upon a kind of iron stove, and are kept in constant motion by the hands, till they have acquired such a degree of heat as to be no longer supportable. At this moment, they are removed by a light shovel, and spread upon mats, prepared for that purpose. They are then rolled between the hands, and always in the same direction, by those labourers to whom this office appertains; while others are employed in fanning them, in order to quicken the cooling process, that they may more certainly retain the form thus given them. The heat communicated by the stove, is generally such as can be difficultly borne by the hands; but this varies according to the kind of tea to be prepared. This immersion in water, and the subsequent rapid application of heat, are for the purpose of carrying off the noxious and inebriating quality which the leaves are supposed to possess in their recent state. The process of heating and rolling them, is repeated two or three times, or oftener, until all their moisture has been expelled; but, at each repetition of the operation, a lower degree of temperature is employed. They are then preserved a

considerable time, and even sometimes after a few months, they are again exposed to the action of a gentle fire, before they are considered fit for use. In their fresh state, they appear to contain an acrid principle, which irritates, and sometimes excoriates the hands of those employed in the manufacture.

The Chinese ascribe many virtues to tea—and, doubtless, many more than it really possesses;—many, too, which are truly attributable solely to the action of the menstruum. In the foregoing cases and experiments, however, none of the effects produced, except the first momentary quickening of the pulse, can be justly ascribed to *warm water*.

These imperfect notices must be considered rather as hints to guide the inquiries of others, than as containing even an approach to a sufficient acquaintance with the medicinal and dietetic virtues of green tea; but as such, the author trusts, they will not be without their utility, in awakening attention to what he is persuaded will be found to be an agent of great importance in arresting morbid excitement of the brain, and in restoring and preserving its healthy functions.

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