

COFFEE—ITS USES AND MEDICINAL QUALITIES.

BY HENRY SEGUR, M.D.

Doctor Bock, of Leipsic, says: "The nervousness and peevishness of our times are chiefly attributable to tea and coffee;" he says that "the digestive organs of confirmed coffee drinkers are in a state of chronic derangement, which reacts on the brain, producing fretful and lachrymose moods. Ladies addicted to strong coffee have a characteristic temper, which may be described as a mania for acting the persecuted saint," etc.

I cannot agree with Dr. Bock that the nervousness and peevishness of the present time are to be attributed to the use of coffee. If people are more nervous or in worse humor now than formerly, we may find other causes arising from the customs and habits of society much more likely to produce such a state of things than the use of this particular article of diet. I have no intention of pointing out many changes and peculiarities in the habits of the age to show many other more prominent reasons for people being in bad humor besides the use of coffee. My object is to defend coffee from a slander aimed at one of our best friends—a friend more likely to relieve the morbid state of things complained of than to produce it. Who that has experienced the good effects of coffee can sit quietly and hear it abused? especially by an estimable physician who has written learned books on the nervous system. The nerves of every honest friend of coffee tremble with the shock of an attack from such a quarter.

Let us examine the effects of coffee on the economy. Taken in moderation it is a mental and bodily stimulant of a most agreeable nature; and, followed by no harmful reaction, it produces contentment of mind, allays hunger and bodily weakness, and increases the incentive and capacity for work, makes man forget his misfortunes, and enables those who use it to remain a long time without food or sleep, to endure unusual fatigue, and preserve their cheerfulness and contentment.

Jomand says: "An infusion made with ten ounces of coffee enabled me to live without other food for five consecutive days, without lessening my ordinary occupations, and to use more and more prolonged muscular exercise than I was accustomed to without any other physical injury than a slight degree of fatigue and a little loss of flesh."

The mental exhilaration, physical activity, and wakefulness it causes, explain the fondness for it which has been shown by so many men of science, poets, scholars, and others devoted to thinking. It has, indeed, been called "the intellectual beverage."

It supported the oldage of Voltaire, and enabled Fontenelle to pass his hundred years.

The action of coffee is directed chiefly to the nervous system. It produces a warming, cordial impression on the stomach, quickly followed by a diffused, agreeable nervous excitement, which extends itself to the cerebral functions, giving rise to increased vigor of imagination and intellect, without any subsequent confusion or stupor, such as are characteristic of narcotics.

Coffee contains essential principles of nutrition far exceeding in importance its exhilarating properties, and is one of the most desirable articles for sustaining the system in certain prostrating diseases; as compared with the nutrition to be derived from the best of soups, coffee has decidedly the advantage, and to be preferred in many instances.

Liebig says: "We shall never know how men were first led to the use of coffee, but that we may consider the article so remarkable for its action on the brain and the substance of the organs of motion, and as an element of food for organs as yet unknown, which are destined to convert the blood into nervous substance, and thus recruit the energy and the nervous moving and thinking faculties."

The medicinal effects of coffee are very great. In intermittent fever I have used it with the happiest effect in cutting short the attack, and if properly managed is better in many cases than the sulphate of quinine. In that low state of intermittent, as found on the banks of the Mississippi River and other malarial districts, accompanied with enlarged spleen and torpid liver, when judiciously administered it is one of the surest remedies. In these cases it should be given in decoction made with four ounces of well roasted and ground coffee, boiled in a quart (16 ounces) of water in a covered vessel, down to half a pint (4 ounces), and two tablespoonfuls given hot every two hours, commencing six hours before the expected attack, and keeping the patient well covered in bed.

It has been found that in typhus fever coffee increases the elimination of urea, and so far purifies the blood without increasing the destructive metamorphosis of tissue, and that it lessens coma and low delirium.

In yellow fever, from a long experience, I consider coffee as my chief reliance, after other necessary remedies have been administered; it restrains tissue change, and thus becomes a conservator of force, in that state in which the nervous system tends to collapse, because the blood has become impure; it sustains the nervous power until the depuration and reorganization of the blood are accomplished, and has the advantage over other stimulants in inducing no injurious secondary effects.

In spasmodic asthma its utility is well established, whooping cough, stupor, lethargy, etc.

In the hysterical attacks of some females, for which the physician can form no diagnosis or cause for the peculiar

and eccentric symptoms manifested; a screaming, crying, staring, kicking patient, with no coherent answer for the medical adviser, at the same time with an evident tendency to act the persecuted saint—give her a cup of well made, strong, black coffee, she becomes quiet, revives, smiles benignly, as if she had swallowed a panacea that had suddenly delivered her from the clutches of the imps of Satan and wafted her from all the miseries of a condemned and tortured spirit to the Elysian fields of Houri.

We have used it as a remedy in croup, diphtheria, nephritis, chronic diarrhoea, etc. In poisoning from opium it is well known as the best remedy, and always on hand.

Hayne says: "That in a case of violent spasmodic disease, attended with short breath, palpitation of heart, and a pulse so much increased in frequency that it could scarcely be counted, immediate relief was obtained from a cup of coffee, after the most powerful antispasmodics had been used in vain for several hours," etc.

After a hearty meal a cup of coffee will relieve that sense of oppression so apt to be experienced, and enable the stomach to perform its offices with comparative facility.

In fact, coffee carries healing on its wings. It is opposed to malaria, to all noxious vapors; as a disinfectant it has wonderful powers; as an instantaneous deodorizer it has no equal; for the sick room, the fetid odors arising from cutaneous exhalations are immediately neutralized by simply passing a chafing dish with burning coffee grains through the room.

It may be urged that an article possessing such powers and capacity for such energetic action must be injurious as an article of diet of habitual employment and not without deleterious properties; but I have never noticed any corresponding nervous derangement after its effects have disappeared, as is seen in narcotics and other stimulants. The action imparted to the nerves is natural and healthy, and I must positively deny that the habitual use of the article is injurious.

Habitual coffee drinkers generally enjoy good health and live to a good old age. Some of the oldest persons I have ever known have used it from earliest infancy without feeling any depressing reaction, such as is produced by alcoholic stimulants.

In Porto Rico our fairest part of creation, at the tenderest age, have been induced to forget the delicious draught from the maternal fountain by the substitution of a decoction of coffee, which soon becomes the daily beverage.

Mayaguez, Porto Rico, 1881.

What is the Legal Fence?

The Indianapolis *Journal* has taken pains to gather information as to the laws regarding the fencing of railroads in sister States. In Massachusetts the legal fence is four feet high. A "sufficient barrier" only is demanded, whether the equivalents be furnished by streams, ditches, live growths, or constructions in wood, stone, or other material. Vermont and Connecticut legal fence is five and a half feet high, with provisions essentially as above. In Maine and New Hampshire the legal fence is four feet high; Rhode Island, stone or wood fences must be four and a half feet high; hedges and ditches are elaborately described.

New York.—The town meetings prescribe what shall be deemed a legal fence in each town. Assessors and commissioners of highways perform the duties of fence viewers. Four and a half feet is the usual height prescribed.

Pennsylvania.—Towns and counties secure special legislation for fencing railway lines, and to prevent running of the stock at large.

New Jersey.—Fences are to be four feet two inches high, of wood, brick, or stone, and four and a half feet if of other materials.

Delaware.—Four feet, with a ditch within two feet, is a lawful fence. Wood or stone fences, or hedge, four and a half feet high.

Maryland, Virginia, North Carolina, Georgia, Florida, Alabama, Arkansas, Tennessee.—Legal fences five feet high.

West Virginia.—Legal fences four and a half feet high.

South Carolina.—Fences must be six feet high, of wood or hedge, or ditches equivalent as barriers.

Missouri.—Hedge five feet, fence four and one half feet.

Kentucky.—"All sound or strong fences five feet high, so close that stock cannot creep through," is the definition of the legal fence.

Ohio.—"A fence, of whatever material, constructed in all respects such as good husbandmen ought to keep." Statute of 1865.

Illinois.—"Fences four and one half feet high, of whatever material the fence viewers shall deem sufficient."

Michigan.—"Fences four and one half feet high of rails, timber, boards, stone, or other things deemed equivalent thereto in the judgment of fence viewers."

Wisconsin.—"Fences four and one half feet high," etc. By act of April, 1878, barbed wire fence is defined as a legal fence.

Minnesota.—"Fences four and one half feet high," etc. Barb fence defined by the act of 1877.

Iowa.—"Four and one half feet high, or fifty-four inches." Barbed wire fence prescribed as legal fence, 1876.

Texas.—"Five feet high." Barbed wire defined as legal fence.

Kansas.—"Worm fences four and one half feet; turf, four feet with ditches; wire fence; posts twelve feet apart."

Nebraska.—The legal fence is described as "such a fence as good husbandmen generally keep."

California.—The legal fence is described with great particularity. Wire, post and rail, brush, picket; ditch and pole and hedge wire fences, not less than three separate strands, the first eighteen inches from the ground, the others two and one foot apart.

Colorado, Arizona, Montana, and Utah.—Four and one half feet high.

New Mexico, Idaho, and Washington.—Four feet high.

In Washington Territory barbed wire fence must carry a top rail of wood.

Indiana.—Any structure in the nature of a fence, such as good husbandmen generally keep.

Tobacco Smoke.

In further research on this subject Dr. LeBon finds that collidine, the new alkaloid existing in tobacco smoke (with other aromatic principles, and prussic acid, as well as nicotine), is a liquid of agreeable and very penetrating odor, and as poisonous as nicotine, the twentieth part of one drop sufficing to paralyze and kill a frog. It is the prussic acid and various aromatic principles that cause headache, giddiness, and nausea in smoking certain tobaccos that contain little nicotine. Other tobaccos, rich in nicotine, have no such effects. The tobaccos containing most prussic acid and collidine are those of Havana and the Levant. The dark semi-liquid matter which condenses in pipes and cigar-holders contains all the substances just named, as well as carbonate of ammonia, tarry and coloring matter, etc. It is very poisonous; two or three drops of it will kill a small animal. The combustion of tobacco destroys but a small part of the nicotine, and most of this appears in the smoke. The proportion absorbed by smokers varies according to circumstances, but hardly ever falls below 50 centigrammes per 100 grammes of tobacco burnt. About the same quantity of ammonia is absorbed at the same time. Naturally, more of the poisonous principles are absorbed where the smoke is breathed (as in a room); less in the open air. A frog placed in a receiver containing a solution of nicotine, with about one drop of that substance to a little of water, succumbs in a few hours. Tobacco smoke contains about 8 milliliters of carbonic oxide per 100 grammes of tobacco burnt. The poisonous properties of tobacco smoke are not due to this gas, as has been maintained in Germany.

The Absorption and Scattering of Heat by Leaves.

In order to rightly understand the role of heat in the growth of plants, it is important to know what part of the heat rays which strike the leaves is absorbed by them, what part is thrown back and scattered, and what part passes through them to lower organs. An inquiry of this nature has been recently made by M. Maquenne. Of his method we will merely say that he used as constant heat source a Bourbouze lamp (in which a platinum wire is kept glowing by a regulated mixture of coal gas and air); and for some experiments with low temperatures he employed Leslie's cubes. The results of the research are briefly as follows:

1. All leaves scatter a part of the heat they receive vertically to their surface; with the Bourbouze lamp this diffusion is about 0.25 of the whole heat, with a Leslie cube a small percentage.
2. Generally the under side scatters more than the upper, but the reverse sometimes occurs.
3. Leaves absorb a good deal of heat from the Bourbouze lamp, the absorption being due to the presence of absorbing substances, especially chlorophyll and water, in the tissue, and to the diffusion taking place internally at the surface of each cell; it is generally greater at the upper side than at the lower.
4. Thick leaves absorb more than thin leaves.
5. The absorptive power of leaves for the heat of boiling water is very nearly equal to that of lampblack.
6. Leaves let heat pass through better the thinner or younger they are.
7. The radiating power of leaves with a great excess of temperature is pretty near that of lampblack; it decreases a little when the inclination increases.
8. The absorptive power of chlorophyll is, on an average, equal to that of water for rays of the Bourbouze lamp, and increases proportionately to withdrawal, in one direction or the other, from the heat maximum.

Lime in Agriculture.

All writers on agricultural subjects seem to agree that the use of lime on clayey soil is of great benefit, crops thus treated showing the advantage of its mixture with the soil. A correspondent to the *Farmer's Review* writes from France that the European farmers coincide with our agriculturists in this respect, and concludes as follows:

The extending use of lime is excellent for clay soils. Argil augments in volume when moist—diminishes when dry. Carbonate of lime possesses neither of these properties; applied then to cold clay soils it enables the air and heat to penetrate more readily, thus making the land friable. On light soils the action of lime is weak, and on those very light the use of lime is misplaced. But as the action of lime rapidly transforms the nutritive capital of the land, its success cannot be permanent unless rationally supplemented by direct fertilizers, as farm yard manure, etc. Hence, the adage, Lime enriches the father, but ruins the children. If the soil have an excess of acids, lime "sweetens" by neutralizing them; all cultivated soils are slightly acid, such being necessary for vegetation. Too much, however, acts directly on plants, and indirectly by the formation of soluble and noxious salts of iron.