[From the *Phrenological Journal.*]

APOPLEXY.

BY A WELL-KNOWN MEDICAL AUTHOR.

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Almost every day in the year we read, in the daily papers, of some persons dying suddenly, without prior indisposition, or even the least promonition of any serious ailment. In many cases these persons were of vigorous constitutions, in the prime of life, unaccustomed to sickness, and, so far as they were conscious, in the enjoyment of their usual measure of health up to the moment of "attack." And these cases, like dyspepsia and consumption, seem to be on the increase in frequency and fatality among us. Hon. Henry J. Raymond, of New York, and Rev. Patrick Henry Greenleaf, of Brooklyn, are among the more distinguished names of the recent victims. Why did they die so suddenly and unexpectedly?

THE RATIONALE.

In most cases these persons die of apoplexy. What is apoplexy? Simply, congestion of the brain. And what is congestion of the brain? Nothing more nor less than an inordinate and disproportionate accumulation of blood in the vessels of that organ. In other words, the immediate cause of death is that condition of the blood-vessels of the brain which in medical parlance is termed "engorgement."

It is not difficult to understand the rationale of a variety of morbific conditions—which are recognized in the Nosology as distinct diseases—whose proximate cause is over distention of the blood-vessels of the brain. "Sunstroke" is a familiar example. This is an apopletic condition caused by excessive heat. The delirium of fever is owing to a determination of blood to the brain. "Congestive fevers" are merely ordinary fevers with a disproportionate quantity of blood in the brain, occasioning symptoms somewhat analogous to those of apoplexy. In cholera there is so strong a determination of fluids to the bowels, and such a drain of serum from the blood, that the brain is not engorged; consequently there is but little disturbance of the mental functions, the mind usually remaining clear, even in the stage of collapse. This is precisely opposite to the condition induced by alcohol, tobacco, opium, and similar drugs. These occasion, in small doses, slight delirium; in larger doses, a greater degree of delirium, and in very large doses, stupor and insensibility—real apoplexy. These various effects, as well as those states of oppressed cerebral circulation termed coma, lethargy, anesthesia, etc., whether induced by chloroform, ether, nitrous oxide, or the pure narcotics, are all attributable to various degrees of congestion of the brain. If the vessels of the brain are distended beyond a certain point, the pressure on the brain-substance interrupts the transmission of nervous force to the muscles, all vital activity ceases, and death is instantaneous—as much so as when an electric flash from a Leyden jar, or from the surcharged storm-cloud, disorganizes the nerve-tissue and causes instant death.

The functions of the mental organs—feeling and thinking—and the nutrition of the brain-material, can only be performed with certain limitations as to quantity of blood in the brain. If the blood be supplied in due quantity and of proper quality to the brain, all of its mental and vital operations go on normally and harmoniously. If the quantity be gradually diminished below the normal standard, the mind becomes feeble, apathetic, demented, idiotic. If the blood be suddenly and rapidly abstracted from the brain, or diverted to the other parts of the body, syncope or fainting is the result. If the blood be abstracted from the system very slowly, as in certain cases of hemorrhage, the superficial capillaries become measurably emptied, and the whole current of blood, while going its ceaseless round and passing through the heart and lungs once in three minutes, is pressed in upon the internal viscera, and more especially upon the brain, occasioning that pathological condition of disturbed circulation termed "rush of blood to the head." If the quantity of blood in the brain be unduly and gradually increased, torpor, coma, cephalalgia, stupor, etc., are the evidences. But if it be very suddenly and rapidly increased to a great extent, apoplexy is the consequence. Various forms and degrees of mental hallucination, delirium, insanity, monomania, etc., depend, for their proximate cause, on the relative amount of blood which occupies the vessels of the brain.

EXCITING CAUSES.

The exciting causes of apoplexy, and, indeed, of all diseases, are such accidents, incidents, casualities, etc., as suddenly disturb the circulation so as to induce the proximate cause or condition, which, as I have already explained, is congestion of blood in the brain. When the predisposition to apoplexy is strong, very trivial exciting causes may induce the paroxysm. Over-exertion, great fatigue, an indigestible meal, a surfeit, a late supper, an ordinary meal taken when the mind is wearied, worried, anxious, or depressed, or when the body is overheated or exhausted; severe mental effort immediately after eating; a mental shock; an extraordinary day's work, or an hour's night work when the mind should be asleep, are among the exciting causes of apoplexy. Many other unphysiological circumstances, which will readily occur to the reader, have been among the disturbing influences which have induced the disease, but they all bring about the disease by inducing its essential condition or proximate cause—congestion of the brain. Unless, however, the predisposition to the disease exist, none of these circumstances can occasion it, for the particular form of disease never depends on the exciting cause, but always on the nature of the predisposition. It is the predisposing cause which determines the character and form of the resulting disease. All that those disturbing influences and agents, usually termed exciting causes, can do is to occasion disease of *some* kind. Its form, character, nature, seat, etc., are determined by the predispositions. Exciting causes only serve to develop the disease at a given time. A dozen persons may be equally exposed to sudden alternations of temperature, and each "catch" an equally severe cold." But each may have a different disease from all of the others. Why? Not because of the exciting causes, the vicissitudes of temperature, and the "cold" were different in each case, but because each person was in a different physiological, or rather pathological, condition. The plethoric person might have apoplexy; the person with very foul blood, typhus fever; the one with a very torpid liver, paralysis; the one with constipated bowels, dysentery; the one with a large amount of earthy and saline matters in the blood, gout, or rheumatism; the one who had taken a hearty meal of ham and eggs, fresh fermented bread, pickles, and hot coffee just before exposure to extreme cold, cholera morbus; and one who had just previously "cured" a cutaneous eruption by the application of a beautifying lotion, "pain-killer," "all-healing ointment," or other repellant medicament, would have a "revulsion" to the lungs, producing pneumonia, etc.

PREDISPOSING CAUSES.

The predisposing causes of apoplexy, and of all sudden deaths except those which are occasioned by mental shocks or mechanical injuries, are unphysiological habits. Indeed, as already stated, these are causes of all the maladies that afflict the human family. All causes of disease, aside from mechanical injuries, are reducible to two classes---poisons, introduced from without, and retained efete matters. Whatever is taken into the system, other than air, water, and food is a poison and a cause of disease. And all excrementitious matters—the debris of the disintegrated tissues—when not properly expelled from the system, become causes of disease. In the language of Hipocrates, they are "poisons ingenerated." The *abuse* or *misuse* of air, water, and food is also a cause of disease, as well as the *use* of things intrinsically abnormal. We may lay it down, therefore, as an incontrovertible postulate, that all causes of disease consist in the *use* of things abnormal, and the *abuse* of things normal.

Now, if the body is duly supplied with proper food, pure water, and fresh air, and placed in proper relations to temperature, light, exercise, rest, sleep, clothing, etc., the balance between supply and waste will be maintained and no disease can exist. But if anyone or more of the depurating organs—the liver, lungs, skin, kidneys, and bowels—become obstructed, this balance is destroyed, effete matters accumulate; poisons "ingenerate;" the blood is impoverished, becomes viscid, and is circulated with difficulty; the capillary vessels (in which all of the functions of secretion and excretion are performed) become overloaded and their diameters distended beyond the limit of normal functional action; the blood globules become more or less disorganized; all of which conditions tend to inflammations, hemorrhages, fevers, diarrhœas, cholera, diabetes, etc., according to the seat of the chief destruction and the degree of engorgement, these being the result of the sum total of the patient's habits of living. If the brain is the seat of the principal obstruction, some form of brain-disease will result—delirium, coma, or apoplexy perhaps. If the brain congestion be slow and gradual, the patient may have paralysis; but if it be rapid and extreme, he will be sure to have apoplexy; and if the blood-vessels of the brain are stretched beyond a certain degree, he will be sure to die.

SPECIAL CAUSES.

While unphysiological habits of every kind are among the remote causes of apoplexy, as tending to its production directly or indirectly, there are certain morbific influences and habits of life which have a special tendency in this direction. And these we are now to consider, as constituting the special object of this paper.

All physicians are aware of the intimate relation between the constipation of the bowels and "aching" in the head; and most persons know that "bilious" conditions of the stomach occasion violent determinations of blood to the brain. Whatever, therefore, in the dietetic or other habits of the individual tends to constipation or biliousness, may be regarded as among the special predisposing causes of apoplexy. A full, plethoric habit is commonly regarded as constituting a special liability to the disease, and the phlegmatic temperament is supposed also to be a predisposing condition. This may be true, other circumstances being equal. Temperament, however, *per se*, can hardly be regarded as a predisposition to any disease; but it may be said to predispose to the habits which produce the predisposition to apoplexy. The idea I wish to indicate is well expressed in the answer of a certain distinguished medical professor to one of his patients who wanted to know the cause of the obesity which the doctor could not cure, "Sir," said the professor, "you have a predisposition to become fat, and a disposition to keep so."

The conditions or "diatheses" termed "plethora" and "biliousness" require a little explanation in order to render their influence, as special causes of apoplexy, intelligible. Plethora itself is merely an overfulness of all the capillary vessels, rendering any organ or part of the body liable to congestion on the occurrence of any accidentally disturbing influence; but this overfulness or plethora does not consist in the patient having too much blood, as many imagine (requiring bleeding as a remedy), but in a redundancy of effete or waste matters in the blood consequent on defective depuration. Obesity, plethora, fatness, and biliousness are states in which the blood or areolar tissue is loaded with impurities. It is these, and not the blood, which should be removed from the system, in order to render the circulation free, congestions avoidable, and apoplexy impossible.

In the plethoric diatheses all of the excretory organs are nearly equally defective in action; hence the blood is befouled with the retained matters which should have passed off in the form of sweat, bile, urine, feces, and carbonic acid gas. But in the bilious diatheses the liver is inactive or torpid in a degree greatly disproportioned to the state of the other excretory organs; hence the blood is more especially loaded with the elements of bile—with those waste matters of the body which should have been excreted from the blood and passed off in the shape of bile. These retained biliary matters render the blood thick, viscid, incapable of passing readily through the millions of minute capillary tubes which ramify through every tissue, structure, and viscus, and hence obstructing their channels, causing the blood to accumulate in the part, overstretching the vessels until, perhaps, they lose the power to contract normally, and ending finally in permanent congestion, and possibly speedy death. Very fat, and very plethoric, and very corpulent (another name for fatness) persons are always liable to die suddenly of apoplexy. Why? Because the whole mass of blood is so loaded with impurities, with obstructing materials which are not excreted, that any slight disturbance of the circulation may at any time cause such a degree of pressure on the brain as to arrest all its functions in an instant. If any one can comprehend how a blow on the head may destroy, instantaneously, the life of the smallest or the largest animal or human being, he ought to be able to understand how a certain force of pressure within the bones of the head (exactly analagous to a blow on the outside) should produce the same effect.

Very fat, plethoric, or corpulent persons often fall from the table while partaking of an ordinary meal of victuals, and cease to breathe. The shock of a cold shower-bath, the administration of chloroform, or any violent exertion of body or emotion of mind may terminate life in a few minutes. Persons who work their brains much while the bowels are habitually constipated or the liver habitually clogged (and worse, if these conditions co-exist), keep the blood-vessels of the brain constantly on the stretch; they become more and more distended and relaxed, until finally a state of permanent or chronic congestion is established, and then any exciting cause, ir significant in itself, may prove serious and even fatal. A fit of anger, sudden grief, severe disappointment, or any violent passion of the mind or exertion of the body, in this congested state of the blood-vessels of the brain, is extremely injurious, and even absolutely dangerous to life.

THEORY OF CONGESTION.

As the term congestion occupies the salient point in this article, and constitutes the key to the rationale, proper treatment, and prevention of apoplexy, it may be well to consider it briefly in a more general sense; for no term occurs so frequently nor is more important in nosology and pathology.

Whenever the circulation is unbalanced, congestion occurs *somewhere*. Some organ or part will have too much blood, and other organs and parts too little. One organ or part cannot well perform its function because it is overloaded with blood, and the other organs or parts cannot properly do their duty for want of sufficient material. In either case the whole system is disordered; nothing is done well. There is only one condition of disease in which the whole *superficial capillary vesse's* are congested, and that is the hot stage of what are termed "high" fevers and "active" inflammations. In these forms of disease there is a preternatural determination of blood to the *whole surface;* the skin is hot, dry, florid, and turgid. In all other forms of acute disease, and in *all chronic diseases*, congestion occurs in the *internal organs*. And as the brain is physiologically the nearest to the heart or center of circulation, that is to say, it is much more largely supplied with blood, according to its size, than any other organ in the body, it is more liable to severe and fatal congestions than any other organ in the body.

Bear in mind that it is the *relative* rather than the positive quantity of blood in the different parts and organs of the body that we are to consider, in contemplating the nature and effects of congestion. In perfect health the circulation is, of course, perfectly balanced. There is never too much blood in the surface (relatively) except in the forms of disease above mentioned. But, with the great majority of persons—those who do not call themselves invalids—there is too little blood in the surface and too much (relatively) in the internal organs.

(*To be continued.*)

Died.

In this city, on Saturday, the 4th inst., of teething, Robert Mack, son of Robert G. and Mary S. Sleater; aged 1 year, 2 months and 5 days.

At Centerville, August 31st, of bowel complaint, Elsie Jane, daughter of George A. and Mary A. Lincoln, aged 1 year, 10 months and 27 days.

At Moroni, on the 31st ult., of diarrhea, Lothrup Lee, son of William L. and Ann Ealta Draper, aged 11 months and 10 days.

At Bountiful, August 28, 1869, Mary Elizabeth, daughter of Henry and Ann Tingey, aged 12 years, 8 months and 20 days.
Mill. Star please copy.

In this city, Sep. 7th, at 4 a.m., at his residence, 12th Ward, of Consumption, Wm. Bain, aged 63 years, 7 months and 9 days.
Bro. Bain was a native of Scotland; he emigrated to this country three years since from Birmingham, England. Deceas d was much respected by all who knew him as a faithful Latter-day Saint.—COM.
Mill. Star please copy.

At Lehi City, Utah Co., on the 23d ult., Janet Pringle, wife of Peter McOrmie, aged 62 years, 1 month and 11 days.
Mill. Star please copy.

At Logan City, Cache Co., on the 29th ult., Elizabeth Moffat, wife of Joseph Moffatt, aged 67 years, 5 months and 14 days.
Mill. Star please copy.

In the 20th Ward, at 11 a.m. this morning, of cholera infantum, Henry Nightingale, son of John T. and Margaret Caine, aged 14 months and three days.