Bowling (W. K.)

Mercury and Cinchona

SHOWN TO BE

THERAPEUTICALLY ALLIED.

BY

W. K. BOWLING, M. D.

Nashville, Tenn.:
PRINTED BY W. H. F. LIGON, MEDICAL JOURNAL OFFICE.
1868.

MERCURY AND CINCHONA.

CHAPTER I.

High up on the slope of the Andes, considered in the light of therapeutics and hygienics, grows the most remarkable tree which the earth produces. Its integument, the only part of it valuable, is denominated by the natives, Kin Kina or bark of barks. The tree wearing this almost sacred coat had conferred upon it by Linnæus in 1742, the name of a Spanish lady of quality, Countess de Chinchon, who was cured by it of fever at Lima in 1638. Since that time its bark is known as Cinchona bark. This bark, pulverized was first used as a remedy for intermittent fever in London, in 1665, under the name of Jesuits powders. It soon fell into disuse on theoretical grounds, but an apothecary's man in that city by the name of Talbor, having no learning and consequently no theory appropriated to himself what the physicians had abandoned, "got an estate in two months," was knighted by King Charles the second and in 1679 was flourishing in Paris as the great doctor, Sir Robert Talbor! In 1675 the bark through the good sense of Dr. Sydenham regained its lost reputation, to some extent, among the faculty, but it was chiefly to the success of Sir Robert that it owed its celebrity and gained a hold upon popular confidence that has

continued until the present. In a manuscript letter of October, 1677 Sydenham complains that his book published a year or two before recommending an ounce of the bark, divided into twelve doses, for the cure of intermittent fever had made no impression upon the physicians of the city. After Sir Robert had acquired fame, rank and fortune, by Sydenham's observation and physicians were forced to recognize the value of the bark, they *then* remembered that one of themselves had proved and published the value of the medicine, and Sydenham received thanks from contemporaries whose obstinate folly had made a man of straw a popular idol. After Sir Robert the bark came into general use and for a long time bore the name of Talbor powder. A hundred years later one of Sydenham's editors says, "the present practice acknowledges no more effectual and safer remedy, indeed nothing comparable to it in the whole Materia Medica." Two hundred years have elapsed since the introduction of Cinchona into regular practice. From 1665 to 1820, a century and a half, chemistry had left the crude bark undisturbed, or had coquetted with it to little purpose, when Palletier and Caventon operating upon the yellow or calisaya bark discovered an alkaline principle which they named "*quinine*," having named a principle previously discovered by Gomez and Laubert "cinchonine." The effect of quinine on the blood is differently stated by different experimenters, Legroux proves that after large doses of quinine the blood loses fibrine and gains in red globules. Briquet proves by experiment the very reverse. It would seem therefore that at present we have no reliable knowledge upon this subject. Its effects upon the nervous system are better understood. In poisonous doses to animals the pupil of the eyes is greatly enlarged, the muscular system much agitated, succeeded by torpor. Post mortem examinations show that the vessels of the membranes of the brain are injected. Men under large doses complain of vertigo, buzzing, and mental and physical insufficiency. Said the great orator, Haskins, under twenty grains of quinine, "there is an entomological concert in my head and the euthanasia of my thought is disturbed." Tem-

porary deafness is one of the most common of the symptoms of quinine, and a sense of fullness in the frontal region almost invariably follows a few medium doses of the salt. A sort of transient amorosis is not uncommon. Among the more persisting, unpleasant effects of the drug is the impression it leaves upon the sense of taste so that every morsel of food or mouthful of water taken, sometimes for days after, is seemingly imbued with its peculiar bitterness. Stillé in his Materia Medica says he has been informed of cases in which any salt of cinchona occasioned an eruption of urticaria. Such a case occurred in the writers family. Distressing urticaria followed invariably an ordinary dose of quinine.

Blood is a better solvent of the salts of cinchona than water. There is no doubt but they substantially enter into the blood from the skin or mucous membrane. It is said that more than one half of the quantity taken may be recovered from the urine. It would seem however, from the experiments of Briquet that when sulphate of quinia was applied to the skin no trace of it appeared in the urine, and yet the success of the external application of the bark in the old practice shows that it was absorbed by the skin, but possibly only in such a quantity as necessarily to belong to that fraction which in no case appears in the excreta.

One of the experiments of M. Briquet should be remembered. It proves that when 15 grains of the sulphate of quinia have been taken into the stomach the constitutional symptoms peculiar to the drug are present in a quarter of an hour, but when only 6 grains were administered the lapse of an entire hour was necessary for its manifestation, and that when less than four grains were taken no sensible effect resulted. There is a peculiarity in the action of these salts that classes them with mercury. M. Baudelocque observed that children could bear much larger doses of quinia without functional disturbance than adults. What a child four years age might take with impunity would produce ataxic symptoms in very aged person. When calomel was so much relied on, thirty years ago, opium was very generally administered in conbination with it. The latter was thought to

qualify and add to the curative efficacy of the former. Of late years quinine and opium have become a fashionable combination. The conbination is highly valued in a number of pathological conditions. In acute rheumatism and pneumonia this combination would seem to be but little less valuable than in periodcal fevers, the very diseases in which formerly calomel and opium were so much relied on.

CHAPTER II.

The salts of cinchona administered in conjunction with opium, singularly enough lose their ordinary effects, and so does the opium, yet the joint effects of the compound while differing essentially from those of either drug when given alone, may, notwithsandting, be valuable in many forms of disease. In 1858 Gubler gave a patient with articular rheumatism four grains of opium combined with twenty-three grains of quinine. The effects of neither drug were apparent. * From this and some experiments on himself he concludes that these drugs are antagonistic in this way, that while it is an effect of opium to determine blood to the nervous system through temporarily enlarged capillaries, and thus induce nervous excitement, sulphate of quinine upon the contrary diminishes the calibre of the capillaries and deprives the nervous system of the ordinary stimulus of a normal quantity of blood, so that one drug qualifies the action of the other through this theraputic antagonism, and in conjunction they maintain the equilibrium of the capillaries. The recollection of these facts will enable practitioners often to exert a skill in meeting the requirements of pathological conditions of many diseases satisfactory to themselves and patients.

But Dr. Stillé and the Dublin Quarterly will please to take notice that this practice of combining cinchona and opium dates some six generations back, and is, indeed, as old as the bark itself. Dr. Donald Monro in his "Observations on the means of preserving the health of soldiers," &c., published in London,

* Stillé Dubliu Quart. xliii. 95.

1764, says, "this practice of giving the cortex with opiates in dysentery is not new, for Dr. R. Morton, in his appendix to the second exercise on the fevers which appeared from 1658 to 1691, observes that after the plague of 1666 had ceased, a fever from a milder poison attended with gripes and dysentery, began to make its appearance. As the common methods of cure proved unsuccessful, and as Dr. Morton observed exaccerbations and remissions, he resolved to give the bark mixed with laudanum and found it answer his expectations. Upon observing a remission he ordered a drachm of the bark, mixed with a grain of opium to be given every four hours for six times, and this removed both the fever and the dysentery." "A fever from a milder poison," says Dr. Morton, two hundred years ago, and before Lancisi's *De noxiis paludum effluviis* had appeared! A shadow of the coming event! That opium has often succeeded in curing malarial fever there can be no doubt. In my early days a neighboring physician cured the disease with a secret powder in imitation of Sir Richard. Desiring to know if some quinia were not hid in this powder we asked a Dutchman cured by it, if it did not set katydids to singing in his ears? "No," said he, "it made me feel ver goot and schleep ver goot." It turned out to be Dover's powder! Such facts as this induced Dr. Drake to record that malarial fever might be classed with the neuroses. Nearly thirty years ago we attempted to prove in Dr. Drake's Journal that "Dysentery is but a variety of bilious fever," I did not know then that Dr. Morton had done the same thing 200 years before! Of Malarial Dropsy, Monro gives a case showing the power of minute doses of calomel. "At the beginning of January, 1762, one Carter, a soldier of the 11th Regiment of foot, labored under universal anasarca, which about two years before had succeeded a flux. He made but very little water, and that of a high color. He took a variety of medicines, as purges, vomits and Dover's powder, lixivial and neutral salts, with opiates, infusions of horse-radish, all without effect; till he was ordered small doses of calomel, three grains morning and evening. At the third dose he began to make water freely and by the 24th of January the swellings were all gone and he was shipped off

to England the 8th of February, having been discharged from his regiment."

In regard to the action of sulphate of quinia Dr. Drake upon experiment with it said it was a tranquilizer and an equalizer. Dr. Stillé say it is "a tonic stimulant when given in doses of medium size, as it is a sedative when administered in large doses." Dr. Monett of Washington, Miss., as early as 1833 said "it contains the febrifuge essence of bark uncombined without any tonic power whatever." Dr. Drake says "it cannot be regarded as a tonic in the sense that iron and columba are tonics." M. Briquet says "it is not a stimulant but a cooling calming remedy."* These conflicts of opinion show that the new steed found no harness ready-made exactly suited to his proportions. When more stress was laid than latterly upon that condition of the system called "bilious," much was said of antibilious medicine. But as calomel the leading antibilious remedy, by the progress of science was shorn of much of the trappings and decorations with which theory and tradition had embellished it, that pathological condition it was so often invoked to overcome and destroy played a less conspicuous *role* in the morbid elements of diseased action. The bilious fever of 1830 became the periodical disease of later years and antibilious remedies were replaced by antiperiodics, so that the new harness for the steed, without, it was thought, involving any theory of its action susceptible of dispute, was very generally labeled "antiperiodic." But it will be seen that this cognomen, this creation of a new class of remedies to accommodate a fastidious stranger, did involve a theory, and we do not hesitate to say an erroneous one. Whatever the sulphate of quinia may be, it is assuredly not an antiperiodic, notwithstanding its wonderful power in a disease preëminently intermittent. There are diseases in which the pathological condition of periodicity is as conspicuous as it is in intermittent fever. This is indisputably so in many cases of asthma, in epilepsy and in hectic, not to mention other affections. In all of these this salt is confessedly inutile and inoperative. Now this could not be so if its claims

* Stillé.

to antiperiodic power were well founded and legitimate. True in intermittent fever, conspicuously periodical, its triumphs first secured it immortality. But periodicity in intermittent fever is a pathological condition of secondary importance. The primary and distinguishing element of pathology is derangement in the biliary functions, the "biliousness" that superficial observers would discard because of the theory, partially false, that chained it to the once triumphal car of calomel. It is precisely where this pathological condition exists in disease that the sulphate of quinia acqures reputation and this whether periodicity be associated with it or not. In intermittent fever, or any variety of malarial fever there are two pathological conditions, to which one more—inflammation—is added in the inflammatory varieties. In all the forms of this fever quinine is triumphant. But we have shown in diseases in which periodicity does not exist in association with derangement in the biliary functions, quinine is useless. Again, malarial jaundice is as much a disease as malarial fever. One is a non-febrile zymotic and the other a febrile zymotic, but they are both dependent upon the same *zuma*. One acknowledges two pathological elements, periodicity and derangement in the biliary function, and is amenable to quinine; the other rests upon a single pathological condition, biliary derangement, and is equally amenable to the sulphate. So that whether biliary derangement exist alone or in conjunction with periodicity quinia is equally effectual, but where periodicity exists alone or in common with pathological conditions not involving the biliary organs, quinia utterly fails. It can not, therefore, be and antiperiodic. But as its triumphs are where biliary derangement is conceded by all it is preëminently an antibilious medicine of wonderful power.

CHAPTER III.

A hundred years ago Donald Monro, of London, records, while surgeon of the British army, as a most remarkable fact, that jaundiced soldiers with intermittent fever recovered much quicker than those jaundiced that had no fever. Those with

intermittent fever of course, took bark, those who had no fever took no bark. The former recovered quickly, not because they had intermittent fever but because they took the bark. This Monro seems not to have been aware of. In 1863 the assistant surgeon of a regiment came to me, yellow as an orange, with a prescription from his senior directing him to take bichloride of mercury every night for forty nights. We advised him to take 3ss of quinia a day for five days and get well in one eighth of the time. He took my advise and rapidly recovered. He related his case to many army surgeons, none of whom could be persuaded that quinine was a "colagogue," which, indeed, it was not. Malarial dropsy from enlarged liver is cured in the same way. In every form of malarial disease, continued, as dropsy and jaundice, or periodical, as intermittent fever and neuralgia, biliary derangement is a fundamental pathological condition, and to this rule there is no exception, and whatever has power to remove this primary effect of malaria cures these diseases or these varieties of a disease.

The Greeks and Romans knew nothing of mercury, and its employment as a medicine was introduced into Europe from Arabia, whose physicians employed it externally in skin diseases, the notorious Paracelsus being the first to administer it internally in the early part of the 16th century. Lauded in syphilis, which about the same time attacked the human family with such violence as to threaten its extinction, long after regarded almost as a specific in the tropical fevers of the southern fragments of the British Empire, and more recently wherever "bilious" fever prevailed, until it claimed empire co-extensive with the domains of pathology, and medical logic was principally employed in excogitating ingenious hypotheses as excuses for its administration, until it was by acclamation crowned king of the Materia Medica. Like other kings, however, it could not command the universal suffrage of its own subjects. A few always disputed its right to empire and regarded its government as *de-facto* only, and these few, like the miniature cloud seen by the prophet in the heavens, grew into stormy proportions and scattered the hosts of the mercurial despot. To this PRETENDER,

wanderer and vagabond upon the face of the earth, we would do justice. We recall the thousand instances where it has been a boon of mercy to those sick of malarial disease, and babies under three years of age find it an anchor of safety in their fevers and diarrhœas. Every practitioner in the interior valley of North America below the forty-fifth parallel of north latitude, or on the Atlantic slope below that line, who has been in practice the third of a century knows that all the forms of malarial fever recognized by writers have yielded to calomel and tartar emetic. Rush's powder of one sixth of a grain of emetic tartar, one grain of calomel and ten grains of nitrate of potash has cured thousands of cases of the severer varieties of malarial or bilious fever. No one doubts now, whatever the "solidists" have recorded against it, that mercury is absorbed, like other medicines, into the circulation. We have the highest evidence that it not only enters the blood but that it changes its character; for blood drawn during salivation shows an increase of buff. Patients under its influence become palid, showing a diminution of the red corpuscles of the blood. Dr. Samuel Wright proved that during salivation the blood "abounds in fetid, fatty matters; and that it is more than ordinarily prone to decomposition." The fetid, fatty matters loading the blood in mercurialized patients are doubtless due to the rapid disintegration of tissue produced by mercury, the débri seeking the blood as a carrier to the excretory outlets of the body. Orfilia proved that the animal organism is less tolerant of mercury than of any other metal. All parts of the system seem to be thrown into commotion by its presence and its entire dynamics employed in expelling the invader. He found traces of lead, copper and silver six or even eight months after being taken, but no trace of mercury could be obtained after eighteen days. Where it can not be got out of its dominions it would seem to be shoved into nooks and corners as much as possible out of the way of the working apparatus, as at least incompatible with its normal action. But mercury in small doses, with a view to its alterative effect, does not arouse such opposition in the general system. The liver

* Wood's Therapeutics.

seems to feel doses astonishingly minute. Experimenters have agreed that very minute doses in health occasioned a brighter yellow in the alvine discharges, and that the subjects experimented on very generally complained of slight griping pains in the bowels. It would seem that the color of the discharges is owing to augmented secretion of bile and that the griping is occasioned by the presence of more bile than usual. All practitioners have attended patients so susceptible to mercury as to suffer hypercatharsis from a few grains.

Headland has shown that whatever goes into the stomach capable of solution goes out of the stomach through the radicals of the vena portæ, and through this vein *into* and *through* the liver ; *in transitu* coming into contact with every *ascinus* of of that viscus. Mercury is no exception to this rule. That it goes into the circulation has been proved, and that it could reach the vital current without having been dissolved is a physiological impossibility. The first force of the medicine, then, is expended upon the secreting surface of the liver, which is the first organ engaged in separating the intruder from the blood that it may at the very threshhold of the glandular dynamics of the organism be thrown back and cast out. The *general* circulation, very probably in a large number of cases, where mercury has been administered, in this way is saved from the contamination of the presence of the mineral. But if the hepatic gateway to the general circulation through the hepatic vein is left open, a part of the medicine takes the course of the blood and is carried to every part of the system, promoting disintegration and loading the current of the circulation with *effete* matters to be got rid of through the various emunctories of the body. It is only when mercury reaches the *general* circulation through the *portal*, either from the quantity taken in being beyond the eliminating force of the liver, however aroused to energy of demonstration by the stimulus of its presence, or where from enfeeblement of that organ by the presence of malaria in its congested vessels, or other causes, it is unable to resist the passage even of the small doses of this drug through its dominions, that salivation is possible. This latter effect in practice, in all conceivable pathological conditions, is deprecated by all save

ical barbarians. In inflammatory fever, and zymotic fevers of high grade, absorption from the gastric surface is often for a considerable period suspended. Even water will not pass into the radicals of the vena portæ; and in cholera, by a sort of inverted dynamics, a centrifugal direction to the skin or to the gastro-intestinal mucous membrane is given to all the fluids o the body by which absorption is prevented. In such cases mercury does not even enter the portal circulation which accounts in these cases for the absence of salivation after repeated doses of that drug. When such fevers abate of themselves, or the cholera poison has exhausted itself, or been eliminated, absorption returns, the last doses of mercury are drunk up by the radicals of the vena portarum, pass the liver, enfeebled by the general disease, and raise a salivation. The salivation occurring about the time of recovery, is set down as its cause, whereas it is a legitimate effect of established physiological and pathological laws.

The natural cure of a malarial fever takes place with, or immediately after, a free discharge of bile, in a sort of critical diarrhœa, and it was an effort, often successful, to imitate nature that those drugs were administered in this disease that were conspicuous for power to establish just such a diarrhœa; a diarrhœa in which there was an abundance of bile. There can be no doubt that malaria which is the efficient cause of the disease often both the predisposing and exciting cause, is in this way "purged out."

For a long time, then, mercury was invoked for the cure of malarial fever, then called "bilious" fever. Now sulphate of quinine is called in requisition to the same end, but as it is an "antiperiodic," the disease has had its nomenclature coquetted with and corrupted so as to change it into "periodical" fever. Now no one ever regarded mercury an antiperiodic. So we have no excuse for mercury in "periodical" fever. Yet our most judicious practitioners, while they accept the change of nomenclature, by no means subscribe to the theory it was intended to inaugurate, but are fond of a "mercurial purge" *and* quinia. The learned and philosophic physician, (for a man may have

much learning and be destitute of philosophy, or common sense), confines his administration of calomel to that pathological condition manifested by biliary derangement, or to syphilis, from some undefined conception of a specific power it has over this disease, or to the fevers and diarrhœas of children where there is always a disturbance in the hepatic function, if indeed this altered function is not invariably the *fons et origo* of their simple fevers and bowel affections. As to its power in eliminating hydro-carbon, and other impurities of the blood, which practitioners very commonly alledge as an excuse for its administration, we have shown that it loads the blood with these very impurities.

"There is no cholagogue which approaches in efficacy some of the preparations of mercury." Cholagogue, from *chole* and *ago*, "I expel." Of this there can be no sort of doubt. But, then, we must give the same signification to the word as did the ancient physicians, "expeller of *bile*." Because a medicine has more power than another to expel bile it is the better "cholagogue," but this does not prove that it is the corrector of that pathological condition to which authors so often refer as impaired hepatic function. It is not only a cholagogue, but it is something better, it is eminently "anti-bilious." While quinine is its superior in anti-bilious power, (its most constant and remarkable demonstration), yet that salt possesses no cholagogue quality whatever. We possess then, here, "two strings to our bow," which judicious practitioners will prefer to one. As we have two valuable emetics, one mineral and one vegetable, and valuable cathartics from either kingdom, it is not surprising that nature had also treasured up from each division medicines possessing power over bilious diseases.

We often need these two strings, badly. A child of Mr. E., (Park st.), 8 years of age had, I thought, intermittent fever, for which I prescribed 12 grains of quinine in four doses, and it failed. The child took 16 grains before the next paroxysm, and the fever returned, notwithstanding. Twenty grains were given in the next twenty-four hours, with the same want of effect. I now ordered 10 grs. of calomel at night and next day the child took 16 grains of quinine and was well.

This autumn, a son of Judge ——, on Spruce street, 14 years of age, sickened. I was physician in ordinary, but being out of town, another physician was called. I saw the case with him the same evening. We both thought he had intermittent fever of the soporose kind. He had got leeches to his temples before I saw him, and a dose of calomel. He was much better next morning, took quinine in ordinary doses through the day, and at night his fever returned with great violence, with a return of the unpleasant head symptoms. My medical friend saw him with me at each visit. He now said that he had changed his opinion of the disease of our patient—that we were mistaken in supposing it to be intermittent fever, for he had inflammation of the brain. I replied that I saw no cause for changing my opinion, that I felt sure of my ground and that the boy *had* to be treated for intermittent fever, and that I felt peculiarly grateful to God for giving me sufficient understanding to detect the true character of the disease, and firmness enough to insist upon the proper treatment, for if he were treated for inflammation of the brain he would die, certainly. A dose of calomel was given that night and the accustomed quantity of quinine next day, when the boy was well and has remained so ever since.

Three weeks ago two beautiful twin boys, three years old, sons of Mr. G. W. C., North High st., sickened with scarlet fever. It was of the simple variety, and while there was a good deal of fever and a copious rash, the children did very well. One had a swelling and suppuration below the right ear, with a slight intermittent fever in the second week. The twins had been exposed to malaria in the country in the hot months. I ordered a few grain doses of quinine and the fever left him. Shortly after this the other twin took well-marked intermittent. I ordered quinine, as I had for the first. It utterly failed. It was repeated, and failed. The quantity of quinine was trebled, and failed. The parents were wretched, but I told them not to be alarmed, for I knew how to relieve him. I then gave him 3 grains of calomel at night and 4 grains of quinine in the beginning of the sweating stage of the fever. I found him next morning with his brother grabbling in a market-basket of hicko-

rynuts. He was thoroughly cured, and as I never give medicine to well people, I substituted good fare for "tonics," and let him alone. He remains well. I have often thanked Providence for these "two strings" to my anti-bilious bow.

Livingstone, (Expedition on the Zambesi in Africa, p. 95), says his quartermaster, Mr. Walker, took violently sick. "Walker's being a severe case, a large dose of calomel was at once administered. This sometimes relieves when other remedies fail, but the risk of salivation must be run. When 20 grains are taken it may cause an abundant of flow of bile, and a cure be the result." "Quartermaster Walker soon recovered." "A remedy composed of from six to eight grains of resin of jalap, the same of rhubarb, and three each of calomel and quinine, made up into four pills, with tinct cardamus, usually relieved all the symptoms in five or six hours. Four pills are a full dose for a man—one will suffice for a woman. Quinine after, or during the operation of the pills, in large doses every two or three hours, until deafness or cinchonism ensued, completed the cure."

A medicine we understand to be a substances endowed by God with an atiribute that distinguishes it as much from other substances as the soul of man distinguishes him from the other animals. This sanative property inherent in the drug *is* the soul of that substance, all else pertaining to it is a mere congeries of elements to form the habitation for this sanative autocrat. In disease all observers have recognized a sanative power ceaslessly at work to ward off the deliterious influence of exciting causes, or failing there no less persistingly engaged in rescuring the organism from the effects of actual disease. The *archœus*, the *anima* the *vis medicatrix naturæ*. Whatever can aid this principle is a medicine. Now we supose that this principle, (and others supose, for this is by no means original,) can be aided only in one of two ways. 1st, Directly, by the force of the medicine being added to the force of the *vis medicatrix*, or secondly indirectly by the force of the medicine stimulating the *vis medicatrix* to do what it could not do without such stimulus. Every one knows that malaria when it gets possession of the system

invariably affects the liver, always in some way disturbing its function. It may be that this derangement occurs in the liver during an effort to eliminate malaria from the blood. It certainly transmits malarial blood slowly, and is subject to congestion and enlargement in the effort. In this way malarial dropsy is produced. The blood loses its corpuscles under the poison, and the vessels that circulate it lose their resiliency and tonicity, for the want of healthy nourishment, while the liver enlarges, and the notch in the posterior border through which the vena cava ascendens passes, presses that vessel, as if held between finger and thumb, and this *obstruction* produces congestion near the radicals of this vessel and a transudation of the watery part of poor blood through the parieties of flaby, because imperfectly nourished vessels, into the subcutaneous areolar tissue ensues, which being permeable, when the patient is erect the fluid gravitates, and the ancles swell, but when the patient is horizontal for several hours the swelling disappears by reason of the fluid that produced it being dispersed along the permeable tissue. The liver transmits the blood brought to it by the vena portæ slowly, and it accumulates in it as a consequence, and the radicals of that vein being near the cavity of the peritoneum, that sac becomes a reservoir of the water of the blood. We know that in malarial dropsy the ankles visibly swell first while in the drunkards dropsy the abdomen first swells, and these are varieties of hepatic dropsy. In the former we can readily understand how minute doses of calomel, changed in the stomach to bichloride and thus rendered soluble, may enter the liver as above described, and so operate on the gland, and conseqently its function, as to diminish its bulk, take off the "pinch" on the ascending cava that its radicals may drink up and carry away the fluid about the ankles, facilitate the transmission of blood from the vena portæ that *its* radicals may take up the effused fluid in the peritoneal sac. At all events small doses of calomel, with or without squills, have cured many cases of malarial dropsy. That malaria produces jaundice by some unexplained influence on the liver all agree and calomel for jaundice is universally prescribed.

We are obliged to the patient enquiring of Dr. Norcomb of

North Carolina, as shown in an addres delivered before the Medical Society of his state in May last and to the good taste of the Editors of the Chicago Medical Journal for the republication of its substance from which we make the following extracts :

"In a lecture delivered by Sir Wm. Fergusson, at the Royal College of Surgeons of England, in June, 1866, I the find following :"

"The loss of confidence in much-vaunted remedies seems, in some respects, like a loss or diminution in our appliances—an abstraction from our powers, as it were. But in my opinion the correct view to take here is, that we are acquiring a knowlege of our own ignorance—that we are begining to see that we have placed our faith erroneously. In short, that we have been taking honor to ourselves for that which has been justly due to nature. We begin to see the difference between blind empiricism and natural processess."

"Says Anstie, on this point : ' " Without an observation of natural processes no medical man ever did great things for mankind, or for the advance of his art." ' * * * * ' " It was but yesterday that disease was universally regarded as some thing entirely foreign to the vital organism, which came to it from without, resided in it for a time, and then departed, exorcised by the physician's art."

And says Prof. P. Hughes Bennett ; "If every young practitioner would dedicate his life to the careful elucidation of the natural progress of only one disease, he would do more for medical practice than has been accomplished by centuries of empirical trials of remedies."

And Dr. Todd, one of the brightest medical lights England ever produced, remarks thus : "Internal inflammations are cured, not by the ingesta administered, nor by the egesta promoted by the drugs of the physician, but by a natural process as distinct and definite as that process itself of abnormal nutrition to which we give the name of inflammation. Our interference either may aid, promote, and even accelerate this natural tendency to get well ; or it may very seriously impair and retard, and even altogether stop, that salutary process."

Prof. T. Galliard Thomas says: "If fifty cases of pleurisy (the disease for which Sydenham prescribed so vigorously) be placed in bed, carefully nursed, dieted, guarded from deleterious influences, and receive not a particle of medicine of any kind, the probabilities are that not one case would end fatally."

"Dr. Garrod tells us that he has seen many cases of severe rheumatic fever get rapidly well without the use of drugs, and that on simply colored or camphor water the improvement is often very quick and decided. In the Guy's Hospital Reports for 1865, are forty-one cases of rheumatic fever, thirty-seven treated by Dr. Gull, and four by Dr. G. O. Rees, 'scarcely any medicine except mint water being given.' Twenty-two were males, nineteen females; two only above the age of forty, the rest under thirty-five. The heart is mentioned as impliclated in a large number of them. The average nnmber of days from admission into hospital to complete convalescence was, for the males, sixteen, females twenty-one. The average duration of the acute symptoms in seven cases in which there was no evidence of the heart being involved, was eight days; in six cases in which the heart was decidedly affected, twenty-three days."

"Dr. Dickson says, in life itself, there is a resistive force—an inherent curative power—that frequently thwarts, in the language of Dr. Thomas, 'the machinations of misguided men.'"

Dr. Chambers says, "That disease is, in all cases, not a *positive existence*, but a *negation;* not a *new access of action* but a deficiency; not a *manifestation of life*, but partial death; and therefore that the business of the physician is, directly, or indrectly, not to *take away* material, but to add; not to *diminish function*, but to give it play; not to *weaken* life, but to renew life."

Says Prof. Austin Flint, "Certain it is that diseases, which do not compromise directly the function of either the heart or lungs, can not kill so long as the nutrition of the body is maintained at a point compatible with life."

Dr. Jackson, in speaking of pneumonia, says: "Where the constitution of the patient is good, little more is required than

to watch the course of the disease; the inflammation will take care of itself. It is the patient himself who is to be carefully looked to; his forces, which are to carry him through the conflict, are to be judiciously sustained, and all disturbing causes, moral and physical, guarded against. In cases of pneumonia, and where the antiphlogistic treatment had been fully carried out, convalescence is difficult and protracted. I have known two deaths to occur evidently from exhaustion. A limited portion of a lung had been the seat of the disease, and was nearly restored to its natural state, and yet death took place with the disease extinct. Prof. G. B. Wood says there is reason to believe that in pneumonia, patients have been starved."

Schonlein said, "Good physicians often see no indication for treatment, bad ones never."

"There are those who, either ignorant of, or disregarding the golden truths and facts of Modern Medicine, cling to tradition and views long since utterly exploded, and vaunt the success of a practice opposed to physiology and pathology—yes, it seems to me, to common sense. I refer to the so-called antiphlogistic treatment, which originated long 'ere modern phsiology rent the veil of therapeutical empiricism,' and the fatality of which is leading daily to its abandonment. This practice has no basis but tradition and empiricism. Scientific practice must have phsiology for its basis. In the language of George Harley: 'A knowledge of organization, important though it be, is yet less indispensable to the physician than a knowledge of healthy function, for it is the latter which elucidates the dark problems of life, it is the latter which proves the golden key to the comprehension of disease.' And says Chambers: 'Is it not then obvious that the only sure mode of arriving at a knowledge of the deficiencies of vital powers, or diseases, is by a knowledge of those powers of which they are deficiencies? The physiologist is the only true pathologist.' And in part I, of Todd, Bowman and Beale's 'Physiological Anatomy and Physiology of Man' the latter says: 'Pathology is is the physiology of disease; and, it is obvius, that no pathological doctrines can command

confidence, which are not founded upon accurate views of the *natural* functions. It is also certain that improvements in pathology must follow in the wake of an advancing physiology."

Haberson says: "Any remedy that has been supposed to possess properties by which this so-called inflammation could be checked, has received the name antiphlogistic, and mercury stands foremest amongst them; but water or brandy often fulfil a similar purpose, and many agents possess equal power in this respect. This phraseology is a vestige of days of ignorance, and has only hypothesis to rest upon. In medicine, however, we still retain the antiphlogistic remedy; and too often diseases are considered as conditions requring to be smothered out, unfortunately also by frequently extinguishing the patient."

'"Mercury,' says Headland, (accepting the experiments of Wright,) 'by some destructive agency, deprives the blood of one-third of its fibrin, one seventh of its albumen, one-sixth or more of its globules, and at the same time loads it with a fœtid matter, the product of decomposition. Such power is possessed by few other medicines, and certainly exerted by none in the same degree as mercury. It is an agent of terrible activity, and we may well be cautious how we handle it. Mercury wastes the frame, causes the body to become thin and feeble, the face pallid, and diminishes the nervous energy."

Habershon says: "After mercury has been taken for some time, the general nutrition of the body is impaired, the blood becomes dark, the coagulation of its fibrine less firm, and the proportionate quantity of serum increased, the red corpuscles are diminished, and the patient becomes thin and blanched. His tissues lose their proper tone, his muscles become flaccid, his energy diminished, and his nervous system enfeebled."

Tanner, in his work on the Practice of Medicine, says: "With regard to the use of mercury, there appears to be every reason to believe that its utility in controlling inflammation, or in promoting absorption of the effused products, has been very much overrated; and indeed it seems highly probable that inflammatory diseases will progress more favorably without the use of this medicine than with it."

Dr. Todd says: "No one would venture to assert that mercurial influence, however quickly induced, ever checked pericarditis or pleurisy; nor would it be easy to adduce an instance in which, with any reasonable degree of certainty, it could be stated that mercury broke down adhesions, or prev nted their recurrence."

Says Dr. Garrod: "For many years I was in the constant habit of administering calomel in cases in which inflammation of the heart was present, but for the last eight or ten years, I have not done so as frequently, and have no reason to regret the change of practice; the cardiac inflammation appears to have yielded quite as readily, and the patient, on the subsidence of the fever, has not had to suffer from ptyalism in addition to debility."

Dr. Bennett says, "To secure the safty of the fortress—let us try to bring the individual *up* to his physical status."

And Dr. Hewett says; "Nutrition is the basis of the treatment of disease, and no other is possible for a rational system of medicine."

Mr. Skey says: "A weak condition of the animal body is inteligible enough, but an abnormal condition warranting a reduction of vital power by artificial agency I can not understand."

Says Dr. Chambers: "Is it nothing to stand sentry against the fatal seductions of polypharmacy?"

CONCLUSION.

Sulphate of Quinine is not a tonic, as Dr. Drake proves—is not an antiperiodic, as we prove above, but is preëminently antibilious. A specific remedy in a variety of diseases acknowledging the same specific cause, and without curative power in any form of disease not a product of this cause. Not a cholagogue or "expeller of bile" I think, though many southern physician differ with me. Not prophylactic in small doses every day, as proved by Livingstone, but decidedly prophylactic when given in medium doses every eighth or ninth day as proved by Sydenham. The preparations of Murcury are curative wherever Quinine is curative; and beyond this boundary,

precious in the fevers and diarrhœas of babies—if these diseases *are* beyond the malarial boundary, which Dr. Webb and Dr. Wright, of this State, dispute, and cure with Quinia—or at least their diarrhœas, in the hot months. Precious, surely, in one form of syphilis, but in the zymotic fevers, except the malarial, and local non-malarial phlegmasiæ, useless, to say the least. Here, where it can do nothing but harm to the patient and injury to the profession, let it be omitted. Its abuse here has swept away a moiety of the income of the profession, and placed it in the coffers of its maligners. Stop it here! Cinchona and mercury are further shown to be therapeutically allied in their prominent physiological phenomena or pathogeneses, in that they furnish the only examples of children bearing larger doses than adults, and an exanthematous rash being common to both, in many cases.

ERRATTA.

No one can be more painfully conscious of the many errors in this hastily prepared pamphlet than the Author. He begs of those who may see proper to read it that each will correct it for himself.