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ON THE

INJURIOUS EFFECTS OF MERCURY

IN THE

TREATMENT OF DISEASE.

BY

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PREFACE.

It is not our intention in the following pages to present any new theory on the subject of the treatment by Mercury, as we are fully aware that the principles advocated are recognised by a large class in the profession; but a considerable section still adhere to the indiscriminate use of mercury, and place too much reliance on its supposed virtue. Many instances are constantly coming before our notice, in which the patient endures much unnecessary suffering, convalescence is retarded, and even worse results follow from its use. We are persuaded that much unmerited obloquy is thrown on our profession by such a course, and the legitimate use of a valuable medicine is discarded. But even when more caution is exercised, and the excessive use of mercury discontinued, the idea is far too general, that acute diseases of serous membranes, and of such structures as the brain and lungs, &c., *require* for their alleviation the free use of this mineral.

It is not the purpose, in this brief treatise, to give all

the views which have been entertained of the action of mercury, or to cite all the diseases in which it has been administered. We have enumerated the general effects, as well known to every one acquainted with the elements of their profession, but have regarded these facts as giving at a glance the best idea of its action on the animal economy, and as serving to present to the mind truths often imperfectly appreciated.

In its injurious effects in the treatment of disease we have sought to submit some of the special circumstances which should prevent its administration, and have briefly given a few cases, to which many others might be added from the extensive records of Guy's Hospital; from these all may perceive, that severe disease, in which much confidence is reposed in the action of mercury, will recover more speedily under the use of more simple agents.

It is our hope that the subject may at least claim the serious attention of the profession; that so the science of medicine may not be retarded or its right practice unjustly impugned.

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CHAPTER I.

ON THE GENERAL EFFECTS OF MERCURY.

AMONGST the early Greek writers on medicine, we do not find any mention of the use of mercury, either in its external or internal application; but about the end of the ninth century it was employed externally by one of the most celebrated of the Arabian physicians, Rhazes (A.D. 852—932), at first, in the treatment of leprosy. To Paracelsus, an astrologist and arrogant pretender, is due the internal administration of mercury in the treatment of syphilis, about the beginning of the sixteenth century (1493—1541); afterwards, both internally and by fumigation, its use became gradually more extensive, till we find Boerhaave (1710), in his

aphorisms, measuring the beneficial effect by the pints of saliva poured from the mouth; in 1717, Dr. Turner introduced the internal use of corrosive sublimate. Terrible must have been the effect produced by the large doses and long continued use of mercury in the treatment of disease; and we find these effects graphically detailed by the authors of the last, and of the present century. In 1804, Dr. Hamilton introduced the use of calomel with antimony and opium in so-called inflammatory disease; and since that time, although given with greater caution and less dire results, its use has been more extensive and its application more general.

For more than half a century, the preparations of mercury have been employed in the manner suggested by Dr. Hamilton, and at length it is used with most unsparing hand; our text-books recommend mercury in almost every disease, and the inexperienced unheedingly follow the dictum: in acute and in chronic disease, in so-called inflammatory and non-inflammatory ailment, in abnormal conditions of the nervous, respiratory, circulatory or digestive systems, in renal or cutaneous disease, in blood diseases or in injuries, mercury finds its advocates, and has been given as if it were the panacea of human disease; and although, at the present day, many of the notions of the past have disappeared, as that excessive salivation is necessary to produce the desired effect, and that this may be measured by the quantity of saliva excreted; still, in the practice of many, it is given in such a mode, that salivation

is produced, and the patient rendered anæmic and wretched; or, where more cautiously administered, it is held in such regard, from the prejudices of practice and education, that many give it in instances where, we think, it is the means of aggravating the disease, increasing abnormal action, retarding recovery, and in not a few cases of hastening a fatal termination. The preparations of mercury are valuable agents in the treatment of disease, but are agents of evil as well as of good; and we propose to consider some of those instances in which they appear to do injury, or, are not required, though frequently used; and afterwards, to enumerate those special classes of disease where they are apparently of service. The reckless use of such powerful means is, we believe, one reason of the disrespect, if not contempt, with which many regard the practice of medicine; and at the present day, this cause, as much as any other, has fostered those false notions and modes of practice which have so successfully confronted the scientific exercise of medical skill. The internal use of mercury is regarded by many persons as an essential element in the prescription of a physician; and to avoid it, they seek out those whose interest it is to encourage these ideas; and most truly, the remembrance of the miseries of salivation, and the protracted months of exhaustion consequent upon it, is an effectual recommendation to treatment, which allows disease generally to take its own course. Many of the abnormal conditions which are observed in disease have a tendency to subside, and the functions of life

spontaneously to assume their wonted action; but, if in such deviations from health, mercury be at once given and continued, an additional source of irritation is produced; and the patient, having recovered from his own, has also to struggle against another disease, the effect of the mercury, given with a well intentioned purpose, but not beneficial in its result.

When preparations of mercury are administered they rapidly become absorbed, and are conveyed to all the glandular organs of the body; these are especially stimulated to increased action, either from special and direct influence, or, possibly, from abnormal excretory action to free the system of their presence; however this may be, the glands generally are affected. This effect is especially observed in the salivary glands, and their profuse action constitutes salivation; in which there is a coppery taste in the mouth, the breath becomes offensive, the gums red, swollen, and ulcerated, at first along the margin in contact with the teeth. The whole of the mucous membranes are similarly acted upon; the alimentary canal is so affected that additional mucus is poured out, and fluid evacuations from the bowels are the result; this purgative action is, however, increased by the secretions from the liver and pancreas being rendered more abundant. A like effect, but in less degree, is produced on the kidneys and on the bladder, on the mucous membrane of the respiratory passages, and on the cutaneous surface. There is, however, another system of glands, those connected with the lymphatic system of vessels, the mesenteric

and general lymphatic glands, the spleen, &c.; and many facts warrant the belief that these are also affected by the absorbed mercury. The proper elaboration of the chyle is most important in the formation of red and normal blood, and in the continuance of healthy nutrition. After mercury has been taken for some time, the general nutrition of the body is impaired, the blood becomes darker, the coagulation of its fibrin 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. Mercury "increases waste, whilst the supplies are stopped;"[1] and effusions into serous cavities, and abnormal deposits sometimes become rapidly absorbed under its influence. It is this absorption of effused product which is generally the thing sought after; but the question naturally arises, Can this effect be attained by other and less injurious means? Does it not sometimes, at least, happen that the diseased product becomes more abundant in quantity and less organized in character from the enfeebled nutritive action consequent on the mercury? We have ample proof that such may be the case.

The condition of the system to which we have just referred, is in itself proof that mercurial preparations are absorbed into the blood; but it has also been extracted from the blood, and has been found in the

[1] Dunglison.

urine, and in the saliva;[1] it has been detected in exhalations from the skin, as in the black deposit found on it after sulphur baths, used subsequently to mercurial salivation;[2] in the discharge from ulcers or abscesses;[3] and many have stated that it may be demonstrated in the bones after death. Thus, after absorption, mercury penetrates throughout the whole framework, as shown by its presence in organic solids, in the secretions and excretions, and in the blood itself. Another proof of ready absorption is the production of all the effects of mercurial action, from the application of mercurial plasters, from inunction, from metallic mercury being carried about the person, from exposure to its gaseous emanations leading to fatal results, as in the instance of the vessels Triumph and Phipps, in 1810,[4] where, some bags of mercury having been placed on board, several of them burst, and the crew of both vessels were salivated, two fatal cases occurred, and all the animals on board were destroyed; and additional evidence is derived from the injury accruing to those who use it in various branches of art, as gilders, barometer makers, &c. Many particulars and instances of this mercurial absorption may be found described in works on the action of poisons, by Christison, Taylor, Trousseau and Pidoux, &c.

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[1] Christison on Poisons, &c.

[2] Trousseau and Pidoux. Traité de Therap. et de Mat. Med.

[3] Taylor on Poisons—case quoted from Landerer (Heller's Archiv.) of mercury found in the pus of a bubo after external application of mercury.

[4] Edin. Med. and Surg. Journal, vi. London Medical and Physical Journal, xxvi.

When poisonous doses of corrosive sublimate, or the other more active preparations of mercury are taken, there is violent action on the mouth and throat, a strong burning sensation, extending to the stomach; this is followed by severe vomiting and purging, the evacuations frequently containing blood; there is some heat of skin, and febrile excitement; sometimes cough, irritation of the kidneys, and even suppression of urine. This irritant effect on the alimentary canal may quickly prove fatal, and the sloughing produced in the throat is in some cases the cause of death; or symptoms consequent on its effect on the nervous system are set up, tremors and twitching of the extremities and gradually increasing coma or convulsions; these conditions may be conjoined, or the nervous state only be produced. If life continue for a short time, severe salivation generally takes place, commencing in about twenty-four hours; but an instance is recorded where the patient died in two hours and a-half—more frequently about two days elapse before a fatal termination. The appearances after death are those of strong irritant action on the stomach and intestines; the whiteness at first communicated to the mucous membrane of the mouth may have entirely passed away; but redness and blackness, or corrosion of the mucous membrane of the stomach are found. The condition of the colon is very similar to that produced by dysentery; namely, inflammation of the membrane, with ulceration or sloughing; and it is a remarkable fact, that the large intestine is affected in a much greater degree than the small, through which

the poison must have necessarily passed; red patches have been observed on the pericardium, ecchymosis on the pleura, and into the lung, and congestion of the urino-genital organs; but sometimes, the sudden stoppage of of the heart's action is the immediate case of death. Christison, in comparing the poisonous effects of mercury with arsenic, states—1. That the symptoms commence sooner with mercury than with arsenic. 2. That the taste is more unequivocal and strong. 3. The acridity in the gullet and inflammation in the alimentary canal is more evident. 4. The face is flushed with mercury, ghastly in poisoning with arsenic. 5. That in the former blood is more generally discharged by vomiting and purging, and there is more frequent irritation of the urinary organs. 6. The nervous symptoms are more common with mercury. 7. The irritant effects are more curable, and 8th, are less subject to variation than in poisoning with arsenic.

It has been already stated that mercurial preparations act on the gland tissues and on the mucous membranes; and the deleterious character oftentimes manifests itself in the excessive effect produced on these organs. The first to which especial reference must be made is *profuse salivation*; the ordinary symptoms of salivation are metallic taste in the mouth, fetor of the breath, a red line along the gums (sometimes of a leaden hue after poisonous doses), but very quickly followed by sponginess, then ulceration, commencing at the margin of the gums. The parotid, submaxillary, and the sublingual glands become tender, swollen, and their secretion very

much increased; the whole mucous membrane of the mouth is slightly œdematous; and the tongue is enlarged and indented. All these symptoms may become excessive; many pints of saliva may be discharged, the ulceration of the gums rapidly extend, leaving the teeth bare, so that they become loosened, and often fall out; if still more severe, the jaw becomes necrosed, and neuralgic pains follow. Few sights are more distressing than one of profuse salivation, the tongue swollen and protruding from the mouth, saliva constantly running from the lips, the patient almost unable to swallow, or to articulate; and sleep prevented from the inability to close the mouth, or to assume a comfortable position. The whole system sympathizes, the patient experiences a sense of great exhaustion, the pulse becomes feeble and compressible, and frequently there is increased action of the skin and the kidneys; and the bowels also are generally more or less purged. The fauces and soft palate sometimes become ulcerated, and slough; but this is a rare sequence of mercurial salivation, unless it have been taken in a poisonous dose and concentrated form, as a strong solution of corrosive sublimate, or of the nitrate of mercury. The quantity of mercury required to produce salivation, is sometimes very small; Dr. Christison mentions an instance in which two grains of calomel produced fatal salivation (from Dr. Crampton, 'Trans. Dub. Coll. Phy.,' vol. iv., p. 91), and Bright one in which five grains placed on the tongue, produced salivation in three hours. Dr. Ramsbotham in the 'Medical Gazette,' states that five grains of blue

pill repeated three times, were followed by extreme ptyalism, and consequent death. Dr. Copeland gives several instances of even still smaller doses producing most severe results—one grain of blue pill having led to salivation, one grain of grey powder to violent diarrhœa, and nine grains of blue pill to ulceration of the mouth, sloughing, and extreme prostration.

Some of the forms of ulcerative stomatitis in children, and the terrible form of disease called cancrum oris, in which the cheek becomes gangrenous, and the child, if spared, is mutilated for life, have often been unjustly attributed to mercurial poisoning; discredit and rebuke have fallen cruelly upon the practitioner when no mercury had been given, and where the ulceration and gangrene had arisen from other forms of mal-nutrition.

It is well also to remember that other substances will produce salivation; this has frequently been observed during the use of iodide of potassium. I well remember a hospital patient freely salivated by nine grains of iodide of potassium given in three grain doses; and a friend of mine, a physician, informs me, that if he take a single grain of iodide of potassium, profuse secretion takes place from the mucous membrane of the nose and mouth, in such quantity as to prevent sleep at night. Iodine has similar action in some instances, so also the salts of gold; those of antimony, copper, lead, and bismuth have been said to produce a similar effect, as well as croton oil, hydrocyanic acid, digitalis, colchicum, and even sulphuric acid and opium; but it may be the result of some local

irritating cause in the mouth, as a decayed tooth, a portion of necrosed bone; there can be no doubt also, that perverted or disturbed nervous action may set up transient salivation, as in some forms of hysteria, and such is the probable explanation of the so-called spontaneous salivation. In these latter instances, the salivation is free from nearly all the indications of metallic poisoning, the brassy taste, fetor of breath, and sponginess, with the commencing ulceration of the gums. Simple catarrh or cynanche, may, however, be aggravated by mercury. But whilst in some morbid states salivation is with great difficulty produced, as in fever; in others a very minute quantity suffices for severe mercurialization, as in chronic renal disease. Instances are recorded, where after the patient had apparently recovered from all the effects of mercurial salivation, after several months, in one instance three months, salivation again came on, without any fresh administration.[1] It is probable that in some of these instances, exposure to cold was sufficient to set up renewed excitement of the salivary glands, already hypertrophied or irritable.

Children are with difficulty salivated, and this often leads to the more free use of mercury in their complaints; very frequently, however, diarrhœa is produced; a form of chronic muco-enteritis, and perhaps also disease of the mesenteric glands are the result. In children, the evacuations are sometimes green, like

[1] Christison on the authority of Messrs. Bromfield and Howard, of the Lock Hospital, in the trial of Miss Butterfield, 1775.

spinach, a condition attributed by Mialhe, Michea and others to the discharge of bile; but this symptom is referred to altered blood by Zeller, Golding Bird, &c.[1]

Severe and uncontrollable *purging* is another injurious sequence of mercurial action in adult life; an injury more likely to occur in strumous subjects than in others. The production of diseased rectum is doubtful; but it is not improbable that jaundice may sometimes follow the violent action on the abdominal mucous membranes and glands. (Copeland.)

There are other injurious effects of a more general character, affecting nutrition, and perhaps through it, the nervous system. A febrile state is occasionally set up, before or during salivation, with heat of skin, and quickened pulse, which has received the name of *mercurial fever;* but sometimes, either from peculiarities of the system, or the long continued use of the drug, the nervous system is more completely exhausted, and a state of excessive prostration is the result, which has been denominated *mercurial erythism*, first described by Pearson. There is, in this state, a marked tendency to syncope; attempting to walk, or to assume the erect posture, is followed by faintness; the pulse is feeble and very compressible; there is sighing, pain at the region of the heart, the muscles tremble, the mental powers are depressed, vague neuralgic pains occur, and instances have been recorded of sudden death. Amongst those whose employment leads them to habitual hand-

[1] By Kraus assigned to the action of mercurials on milk. Pereira Mat. Med.

ling or exposure to its influence, as miners, gilders, barometer makers, a somewhat similar condition has frequently been observed; with impaired nutrition, and feebleness of the general strength, the arms shake, and a constant tremor is the result, designated *mercurial tremor or paralysis;* if the exposure be continued, all the muscles become affected, even those of mastication and speech; the skin becomes dry, and sometimes brown; there is loss of memory, and death has in rare instances followed, preceded by sleeplessness, delirium, &c. These severe symptoms may come on suddenly, but are generally very slow in their disappearance. Dr. Christison records an instance of a barometer maker, who, with one of his workmen slept during the night, in a room where the vapors of mercury escaped; a vessel containing the metal was placed on a stove, which had had a fire accidentally kindled in it; one was salivated, and lost the whole of his teeth, the other suffered from shaking palsy during the rest of life. Other diseases of the nervous system have been ascribed to mercury, as epilepsy, melancholia, and insanity, but it is probable that other causes were also in operation.

Mercurial cachexia is a term applied to the imperfect nutrition consequent on mercurial action, in which the skin is pale, the blood watery and deficient in red corpuscles; the pulse is irritable and compressible; the patient complains of sense of faintness and loss of strength; there is palpitation of the heart, and a disposition to swelling of the ancles or general anasarca; if there be also a tendency to strumous forms of

disease, we may find the symptoms of chronic disease of the lungs or larynx, perhaps of true phthisis gradually developed. (See Appendix.) It is during a less degree of this cachexia, that abnormal deposits, effusions, or growths often become absorbed.

Some *diseases of the periosteum* and of *bone* are to be regarded as the result of mercurial poisoning, aggravated by strumous diathesis or syphilitic taint. Our own experience does not lead to the observation of syphilis in its primary forms; but many authorities of great weight have attributed disease of periosteum, formation of nodes, and necrosis to this result of a double poison—mercury and syphilis.

The *skin* is also affected in a marked degree in chronic poisoning by this metal. Pearson, Alley, Rayer and others have drawn attention to a form of eczema, in which minute vesicles are produced, accompanied with more or less cachexia, *eczema mercuriale;* and it is probable that other cutaneous diseases following severe or prolonged mercurial action are merely forms of the same state, modified by the character of the skin itself, as mercurial erythema, erysipelas, or lepra, &c.

Other effects have been described, as increased action from the skin, and from the kidneys, as the result of mercurialization. Sufficient has been said to show the character of the direct injury produced in some cases; and from the whole, we may assuredly infer that the action of mercury is opposed to the right performance of the vital functions of nutrition and of reparative change.

CHAPTER II.

ON THE MODE OF ACTION OF MERCURY.

THE theories of the action of remedies are so exceedingly vague and unsatisfactory that we shall not gain much by discussing them. The terms and the whole nomenclature are, in many instances, purely hypothetical. Wilson Philip tells us that "Mercury, like other agents, possesses the *sedative* as well as the *stimulant* property; and its sedative properties appear to be wholly exerted on the motive powers, for when it appears to lessen the sensibility, this effect seems to arise merely from its removing some cause of irritation. Its sedative tendency is very different in different constitutions; and in some it exists to a degree that wholly precludes its employment. The sedative effects of mercury, then, as of other medicines possessing similar properties, are known by its producing a state of debility, with or without more or less nervous irritation, according to the circumstances of the particular case. Thus the injurious effects of mercury may be divided into two classes—those which arise from an excess of its stimulant, and those which depend on its sedative effect."

Billing considers it a *tonic*. "By its specific action on the capillaries, whether directly on their tissue or through the medium of their nerves, it causes them to contract."

Dunglison regards it as an *eutrophic*, a promoter of healthy nutrition, which is, to say the least, at variance with our previous remarks, both on the condition of blood produced, and the effects observed in the system generally.

Pereira classes mercury amongst *spanœmics;* a term which perhaps better than any other expresses the character of its action, namely, as an agent which impoverishes the blood.

Neligan places it amongst *special stimulants*, comprising alteratives and specifics. The term *alterative* is one very frequently used to describe the effects produced by small doses of mercury; namely, that the medicine is given, no very marked effect is produced, but the alteration for the better has obtained for the supposed beneficial agent the term alterative; one that is sufficiently indefinite to suit any theory, and may be applied to almost any means used for the mitigation of disease. This cluster of names—sedative, stimulant, tonic, special stimulant, eutrophic, alterative, spanœmic, resolvent are, of themselves, indication of the limited extent of our knowledge, as to the precise mode of action of a drug, perhaps more extensively used than any other.

Whether it act by means of producing a different physical condition of the blood, or by chemical changes, as by combining with albumen, is still involved in doubt,

although it is known that some of the compounds of mercury, as, for instance, corrosive sublimate does combine with albumen; that after absorption mercury circulates in the blood; and that after the medicine has been given so as to affect the whole system, the physical condition and properties of that most essential, vital fluid are changed in character.

Dr. Alison, in speaking of the virtue of mercury in arresting inflammation, adduces iritis as often affording proof of its power in checking disease; "*but*," he says, "that a similar power is exerted, in a degree adequate to the object required, in any inflammation of internal parts, is much doubted. That calomel and opium, used in moderation, is a useful medicine in many internal inflammations is granted by all, because the soothing effects of the opium are often desirable, and the calomel is one of the simplest means by which some of the injurious effects of opium may be corrected; but the main question, as regards any specific virtue of mercury, is this—Do the symptoms of inflammatory diseases subside more rapidly, and more certainly, when the mercury has affected the mouth, than without that occurrence? and on this point observations are somewhat at variance. It may, however, certainly be stated, in general terms, that the cases in which that combination has seemed most useful have been most frequently those in which, the symptoms having subsided, it was withdrawn without the mouth being touched, and therefore without any proof being given of its specific virtue." And as to the treatment of

pneumonia, he tells us that, "no reliance can be placed on the specific effect of mercury in preventing or resolving the hepatization of lungs."

Dr. Watson somewhat favours the idea that "mercury tends to equalize the circulation; that by causing the blood to be distributed in larger quantity than common upon several surfaces at the same time, it obviates, *pro tanto,* its excessive congestion or accumulation in any one organ." He very graphically describes it as "a very potent, but two-edged weapon." "That it has a loosening effect upon certain textures; that it works by pulling down parts of the building." But that "the great remedial property of mercury is that of stopping, controlling, or altogether preventing the effusion of coagulable lymph; of bridling adhesive inflammation; and if we, in our turn, could always bridle and limit the influence of mercury itself, it would be a still more valuable resource." To the latter part of this quotation we give hearty assent, but the full effects mentioned in the former clause we shall very often look for in vain, and the expectation of it, we fear, has often led to disappointment; instead of stopping, we have very often seen the effusion of lymph increase during its action.

Dr. Barlow, after speaking of its action on the glands, says, "in so doing it causes an increased flow of blood to these organs, and hence it has been proposed to explain its action, in the earlier stages of inflammation, upon the principle of derivation, though it is more probable that at this period it is chiefly serviceable as an

evacuant." That "the action of mercury is not, however, limited to any particular tissue, but under its influence nutrition languishes and absorption proceeds more rapidly. It produces, moreover, marked effects upon the blood itself, diminishing the quantity of the red corpuscles, and probably that of the fibrine also, and it is possible in this manner that it determines the formation of the less highly-vitalized corpuscular lymph in preference to the more highly-vitalized fibrinous lymph." That with antimony and opium, the one acting as a sedative on the heart, the other on the nervous system, the effects of the mercury are modified, and its efficiency as a remedy in the "treatment of inflammation of serous and fibrous tissues, and also of the parenchymata of viscera" increased.

These quotations and opinions are from high authorities and agree as to the general action of mercury, but the question naturally arises, whether in the treatment of the classes of disease to which reference has been made, it is really advantageous to diminish nutritive power, and promote degenerative changes. The able arguments brought forward against blood letting in the discussion, as to the changed type of diseases, by Dr. Hughes Bennett and others, may be applied with nearly as much force to the treatment of inflammation by mercury; and the result of the course of treatment suggested is, we believe, far more satisfactory than where depletory measures had been actively used.

Billing states that mercury "acts more upon the capillaries than antimony," and that "it arrests inflam-

mation by contracting the capillaries," but of this we have very imperfect, if any, actual proof. It is very generally believed that mercury prevents the effusion of lymph, or if effused, promotes its absorption. The disappearance of lymph in iritis is not sufficient to establish this opinion, except in so far that the nutritive action is checked, and general waste of all the tissues accelerated, the first tissues to be absorbed being frequently abnormal deposits; and if we search for fuller proof the very groundwork disappears. We have sometimes found that the effusion of lymph commences during salivation, as pericarditis coming on whilst a rheumatic patient is under the influence of mercury; and again, we have seen in acute pleurisy that the effusion has gone on increasing as long as mercury was given, and unless discontinued it would probably have destroyed the patient; in these cases, instead of acting as a so-called anti-phlogistic, it was really the reverse; but in this, as in many other instances, a theory is made beautifully adapted to supposed circumstances, and upon that ideal basis others are built in almost endless variety. Theories of inflammation are made, and mercurial action fitted in; and truly this *word* inflammation has been nearly as injurious as the thing itself: it has engrafted itself so completely into medical phraseology and into the public mind that my friend and colleague, Dr. Barlow, may well term it the "bugbear inflammation." It were well, if possible, to abolish the term altogether, and seek for another to express the phenomena observed, and then we should be

more likely to arrive at unbiassed and correct ideas. In ordinary vigorous health it is probable that there is more rapid combustion, if I may use such a word, taking place in the lungs, than in any diseased state whatever; but a sudden cessation of this healthy action often leads to burning heat of skin amongst other symptoms, and on this account the conclusion is at once drawn, that there is an increase of combustion in the lungs, when there is really almost a cessation; the disturbed relation of vital functions being thus misinterpreted. If we knew all the facts of pathology, it may be we should find that in every case of so-called inflammation, there is too little inflammation; that instead of presenting vital changes in excess, they are diminished and disturbed. Would not some other term more correctly express the condition which really exists? Atrophy and hypertrophy are terms in familiar use; perhaps *metatrophy* might be employed to express the phenomena of changed nutrition in ordinary acute or chronic inflammation; and *paratrophy* other forms of perverted nutrition; such words would not be so likely to mislead as that so generally, but erroneously employed. Any remedy that has been supposed to possess properties by which this so-called inflammation could be checked, has received the name of anti-phlogistic, and mercury stands foremost 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. The chemist has long since discarded the idea of phlogiston,

propounded more than a century ago by Stahl and others as a principle, which was manifested in the combustion of substances, and entering into combination with them, produced the oxidized or other product. In medicine, however, we still retain the anti-phlogistic remedy; and too often diseases are considered as conditions requiring to be smothered out, unfortunately, by frequently also extinguishing the patient.

The idea that diseases are to be regarded as entities, or something superadded to our frames is one which even medical men are very unwilling to abandon. It is very difficult to consider the Leyden jar, highly charged with electricity, to use ordinary phraseology, and to experience the shock felt on touching its external and internal surface without assuming that something more has been communicated than a mere disturbance of the forces previously there; that nothing has been added to, and nothing taken from the jar; and we shall probably have a more correct idea of the true relation of disease and of the action of medicines, if we remember that the delicate fabric of the human frame in its constant growth and repair, and in the exercise of its functions presents the manifestation of the same physical forces which are in operation without the body; that the chemical forces obey the same laws in the living body as in the laboratory; that gravitation and attraction, the forces of heat and of electrical or galvanic force also are in constant exercise, and with them is also probably associated another correlated in some manner, which has been called nervous. All these are in con-

stant operation in life, and the disturbance of them may be the cause of disease. Thus mechanical violence injures the fabric of the body; the chemistry of the organism is disturbed by retained secretions; gravitation leads to manifest changes in the circulation and position of parts; the temperature of the body may be suddenly lowered, and the whole economy consequently deranged; so again, the forces of electricity and that of nervous action may be abnormal. The alteration of one modifies the whole, or all the physical forces may be simultaneously disordered; but we find with some persons that, whatever the ailment, however produced, mercury is given; "antiphlogistics" administered to prevent injury or to cure. Thus, a man receives a mechanical injury, he is mercurialized, as we have known, to prevent so-called inflammation taking place; there is headache, sometimes because the heart cannot propel the blood into the brain, for there may be intense headache from exhaustion as well as repletion, mercury is given; or blood gravitates into the uterine, rectal, or other veins, mercury is used to unload them, although the condition may arise from exhaustion; a patient is affected with *pneumonia*, it may be from injury, mercury is the remedy; from mechanical retardation of blood, mercury is given; from exposure to cold, mercury is given; from retained secretions, or a modified character of the blood, mercury is given; from pressure on the pneumogastric and consequent changed nervous supply, again mercury is given, as if the changes were the same in each instance whatever the

disturbing cause. We have frequently witnessed with surprise the reckless manner in which mercury has thus been employed, and have seen very serious injury as the result; a statement which many of my professional brethren could substantiate; the disease is treated rather than the patient. We do not assert that in none of these instances are mercurials of advantage; but it will be found that they are used too indiscriminately and without equivalent profit. We must confess that we are not satisfied with any of the theories of mercurial action; and the facts known do not warrant us to state more than that after its introduction into the system in small medicinal doses, the circulating fluid is changed in character, nutritive processes modified or checked, and glandular organs excited to increased action.

CHAPTER III.

ON SPECIAL DISEASES IN WHICH MERCURY IS INJURIOUS.

THE more special instances in which mercury is *injurious* are the following:

1. In strumous diseases of the brain, lungs, abdomen, skin, bones, &c.

2. In degenerative changes of advanced life, as atheromatous deposit in the vessels leading to apoplexy, ramollissement of the brain, &c., in fatty degenerations of the heart, aneurism.

3. In fevers and exanthems, as scarlet fever, typhus, measles, small pox.

4. In conditions consequent on exhaustion, whether from over fatigue, preternatural drain, mental anxiety, insufficient food, loss of blood.

5. In passive congestions of the lungs, uterus, &c., in states of weakness and loss of power.

6. In cancerous diseases.

7. In degeneration of the kidneys.

8. In diseases of the mucous membranes it is of very questionable utility, as bronchitis, enteritis, cæcal disease, dysentery, &c.

9. In diseases called inflammatory, as of the mem-

branes and substance of the brain, of the lungs and pleura, of the pericardium and peritoneum, in croup, &c., whilst in some cases the products of disease become absorbed and health restored, in very many instances the mal-nutrition consequent on the mercury leads to increased effusion.

10. In rheumatism and its complications the advantage is not equivalent to the injurious effect.

As to the conditions where the administration of mercury is *advantageous* we may enumerate:

1. In retained excretions, as from the bowels, liver, &c., it is often of great value.

2. As a speedy and efficient purgative.

3. As an excitant to the excretory organs in some forms of dropsy, of embarrassed heart, of bronchitis, &c.

4. In small or occasional doses where its more free or continued use would be detrimental, in some of the classes to which we referred to its administration as being injurious.

5. In syphilitic diseases.

6. In some forms of gastrodynia and irritability of stomach the symptoms are alleviated by it.

7. In Asiatic cholera, although most severe cases have recovered after its administration, it is of doubtful efficacy.

8. Its local application in some cutaneous diseases and chronic ulceration is certainly salutary.

1. *The effects of mercury are injurious in strumous diseases.*

It is not our intention to notice every form of strumous disease, such would be to write a voluminous

treatise; but in whatever organ this abnormal action manifests itself, the same remarks in great measure apply. Tubercular deposit takes place within the membranes, and in the substance of the brain, and the indication of its presence is at one time scarcely perceptible, at another the symptoms are painfully distinct. A child of fair complexion, bright and intelligent, with charms that have endeared it to every one, becomes listless and unwilling to take its part in wonted amusements, or its head rests heavily on its nurse's arm. This state may gradually pass into most marked stupor and coma, or these latter symptoms be preceded by vomiting of a very severe kind, coming on whenever the child raises its head, the oft-mistaken bilious attack of children. Pain in the head is sometimes complained of, and is occasionally very severe; convulsion then comes on, or may take place as the first appreciable indication of any disease of the brain. Other symptoms are present, the pulse at first slow, becomes exceedingly rapid, the respiration sighing, the eyes squint, the pupils are found to be contracted, afterwards irregular, or widely dilated, and insensible to light; the mind unconscious, but a moaning, plaintive cry is occasionally uttered. This state is generally the result of so-called inflammatory disease of the membranes of the brain, acute hydrocephalus, and is not unfrequently associated with the deposition of minute tubercles. The whole appearance of the child is that of one in whom nutrition is feeble, and readily disordered. Very many practitioners would give mercurial

remedies freely in this state, and we have frequently seen them so given. What, may we ask, do they effect? the character of growth is disordered, and the mercury, we think, increases the disposition to low organized deposit. But does it not lead to the re-absoption of inflammatory products? we have no proof that it does anything of the kind. Very many of these instances baffle all treatment; but we have seen more benefit result from the salts of potash, and especially the iodide, than from any other treatment, other suitable measures being the same. In an infant, whom I watched with much anxiety, where convulsions recurred almost every time it was raised, the head being large and hot, the pupils only slightly sensible to light, and with commencing angular curvature of the spine, the administration of iodide of potassium in half grain doses was followed by the subsidence of all these urgent symptoms, careful directions as to diet being followed at the same time; no convulsions subsequently took place, and the child completely recovered. We might enumerate many other cases of a similar kind. In the more chronic forms of the disease, where the head has much enlarged, and the impressions on the senses produce little effect where strabismus is constant, and consciousness almost destroyed, even in these we have seen similar marked relief from saline treatment. We do not mean that mercurial medicine is not to be given in any of these cases, but not with the idea of producing mercurial action; where the secretions are much disordered, a slight occasional dose of grey powder or calomel, with carbonate of soda, may be of service, but even in this

respect it is less advantageous than is usually supposed. It not unfrequently sets up irritation in the mucous membranes of the intestine, and thus reparative action is retarded. This form of disease is not, however, confined to infancy; we sometimes find it in early life, or even manhood, but I cannot call to mind any case where benefit could fairly be attributed to mercury. If reference be made to the valuable treatise of Dr. Ancell on Tuberculosis, it will be found that the character of the blood, as shown by many observations in struma is marked by its deficiency in red corpuscles, and by an excess of water; that the albumen is increased in quantity, but probably defective in quality, and the fibrine is rather below than above the healthy standard, and also defective in quality. Such departure from a state of health, so justly expressed by the same writer, "is evidence of diminished vitality," as "measured by the sum of vital actions." Mercury tends to increase this abnormal state, and its aid should be only sought for under special circumstances.

In strumous deposit in the lung tissue, local changes with congestion take place, sometimes presenting the signs and indications of ordinary so-called inflammation of the lungs; very frequently it is rather by the character of the deposit as low organized, but not truly tubercular, that we have the evidence of strumous diathesis. In these instances mercury is often given, but we think unwisely; and although such cases, however treated, often tend to a downward course, we can recal many instances where the lung tissue has apparently broken down more rapidly, and phthisis has been

speedily developed. Pleuro-pneumonia in such subjects does not bear measures calculated to decrease the already feeble power of nutrition and repair. We are well aware that in this opinion we are in opposition to the statement of a very high authority in practical medicine. Dr. Graves in his 'Clinical Lectures,' recommends that in scrofulous inflammation of the lung, mercurialization should be effected rapidly and at once; and states that mercury is a most valuable remedy in the treatment of scrofulous bronchitis and scrofulous pneumonia. In these recommendations he is borne out by Dr. Munk, in his communications to the 'Medical Gazette' of 1841, on the use of mercury in incipient phthisis; but much experience in these cases does not warrant this conclusion.

The preceding remarks apply still more forcibly to strumous disease of the alimentary canal, as well as to disease of that canal occurring in strumous subjects. The benefit of mercurials in the treatment of gastro-enteritis of children is not equal to that of salines; and we could very easily record a large number of such instances, where saline treatment has been followed by more speedy relief than we have ever seen after mercury had been given. With some persons, it appears to be a recognized rule of practice, that if the evacuations be pale or clayey, greenish, or, in fact, at all departing from the healthy character, mercury should be given. In the forms of strumous disease, where deposit takes place in the mesenteric glands, or in the glands of the mucous membrane, leading to ulceration,

diarrhœa, and emaciation, as we observe in ordinary phthisis or mesenteric disease, it is unwise to administer mercury in any form; sometimes the bowels become constipated, the evacuations clayey, the secretions disordered, and the administration of a mild mercurial purge is followed by transient relief; but, we have at our command agents which can effect a like beneficial change, with less risk to the patient.

In strumous peritonitis, the occasional severe pain, tenderness, distension, and the evidence of acute disease, tempt the practitioner to give mercury, combined with opium. We have no proof that any advantage is gained by such combination, but rather that the mucous membrane is more likely to become also involved; and we are in the habit of giving opium alone, or in the form of Dover's powder; or again, where there is effusion into the abdominal cavity in strumous children, the absorption is more quickly effected by means calculated to restore healthy and vigorous action, rather than by an agent like mercury, which whilst it increases the excretions from glands, augments the general strumous condition.

The following is an instance of the beneficial result of such a course:—

Strumous Peritonitis.

Mary Ann G., aged 6 years, was admitted into Guy's Hospital under my care. She had red hair and delicate skin; the eyes were bright, and the pupils dilated; and for twelve months there had been indications of disease

of the abdomen, as shown by distension, flatulence, and emaciation.

July 29*th*. On admission, the abdomen was very large and flatulent, there was indistinct fluctuation, and slight tenderness on the right side. Tincture of iodine was applied externally, and cod liver oil and steel wine were given three times a day.

August 2*nd*. There was great increase of pain in the abdomen, the child was constantly screaming, and had had vomiting, the bowels were acted upon, the abdomen very much distended. The child had had no sleep, and was very ill. An assafœtida enema was administered and Dover's powder taken.

3*rd*. The child was very restless and in severe abdominal pain, the tenderness was moderate, and principally situated in the region of the transverse colon and in the right hypochondrium. She was unable to bear the weight of a poultice. The tongue was red at the tip; the pulse compressible; the bowels open; the stomach irritable. The tincture of iodine had produced slight excoriation.

Three leeches were applied; a quarter of a grain of opium was given every four hours, and soda water with milk.

6*th*. The abdomen was less tender, very full, and rounded; the veins were enlarged; the tongue furred; the bowels open; she had slept badly; medicine repeated.

17*th*. She suffered much less pain in the abdomen, and there was less distension; the tongue was slightly furred; she slept well. Fish diet was allowed. The

improvement in this child was very rapid after the administration of opium; and could not have been more marked if mercury had been also given.

The skin in many strumous subjects is remarkably delicate and semi-transparent; it readily becomes inflamed, and several varieties of cutaneous disease are the result; as lichen, eczema, lepra, and psoriasis; in these cases, although mercurials are by some authorities recommended, we have seen the baneful effects of salivation, and similar instances have yielded to very different treatment. The concurrent testimony of those who have had the greatest experience in the treatment of these cases has led to the disuse of mercurial remedies. In true lupus few would give mercurial drugs.

Still more strongly might I repeat the opinions of many experienced surgeons in the treatment of strumous disease of the eye, or of the bones; but wherever disease arises in strumous subjects, and of whatever character, it is less amenable to treatment by the preparations of mercury; and it is of great importance in each instance to study the type of the disease, and the general constitution of the patient.

2. *The preparations of mercury are injurious in the degenerative changes of advanced life, in atheromatous deposit in the arteries and capillary vessels, leading to apoplexy, ramollissement of the brain, fatty degeneration of the heart, &c.*

The retarded circulation, which arises in advanced life from deposit in the coats of the cerebral capillaries,

manifests itself by numerous symptoms, as pain in the head, giddiness, disturbed sensations, either of the special senses in modifications of the sight, as muscæ volitantes, ringing noise in the ears, or of general sensation, formication, increased or diminished sensation in the fingers or in the lower extremities. The blood is retarded in its course; venous congestion is produced; and the nerve centres of sensation and motion being only imperfectly supplied with blood are unable properly to perform their functions, and their nutrition cannot be efficiently carried on. If one of the vessels in the part ruptures and blood be poured out, sanguineous apoplexy is the result; or if the growth of the part be checked in a great degree atrophy or degeneration must follow, and softening takes place. In either case the disease is one of imperfect nutrition; and the action of mercurials appears to hasten those degenerative changes, which are themselves the cause of the disease. The same remark applies to epileptiform disease or spinal paralysis, the result of diseased vessel or exhausted functional condition. With the first indications of disordered cerebral circulation, manifested by pain, vertigo, or modified sensation, some practitioners resort to mercury; but except in its mildest purgative or stimulant action to excretory glands, we regard it as being very injurious; and where actual softening or effusion of blood have taken place, the careful observation of many instances has confirmed the opinion, that mercurial action does not promote the reabsorption of the blood in this state of enfeebled circulation, but

rather accelerates softening around the coagulum. Like the leaf in the autumn, the nutrient vessels become more and more obstructed till a slight cause suffices to check the current, and then the leaf changes its colour and quickly falls.

In like manner degeneration takes place in the muscular fibre of the heart itself; so that we find minute, highly-refracting particles of fat occupying the position of the striated muscular fibre of the heart, or the heart ifself may be impeded in its action by an envelope of adipose tissue. These states arise in many instances from degeneration of the vessels (the coronary) which supply the heart with nutrient fluid; frequently they are the concomitants of the ordinary changes of advanced life; but they as often spring from other causes, as great mental anxiety or intemperance. If, however, the central propelling force of the circulation be so enfeebled, local congestions may take place in any part of the course of the blood; it may be in the heart itself or in the lungs, giving rise to urgent dyspnœa, palpitation of the heart, or the agonising breast pang of angina pectoris; it may be that the hepatic circulation is congested, and the whole of the chylo-poietic viscera are disordered, flatulence and indigestion being the result; or the indication may be of cerebral disturbance as before detailed. It is, we believe, unwise in these conditions to seek immediate relief to the symptoms by remedies which will almost certainly hasten those degenerative changes, which are the cause of the symptoms and thus increase the diseased action. There is a temptation,

however, to give mercurials in some of these cases; as for instance in the portal engorgement, and the bilious derangement of intemperate persons in whom, from degeneration of the right side of the heart the circulation has become exceedingly feeble; sometimes the relief is marked and sudden; but if the remedy be given so as to produce more than its purgative action, or to mercurialize the system, additional feebleness is the result; and dropsy is hastened, or fatal syncope, a not unfrequent termination in these instances, may take place.

3. *In fevers, whether typhus or typhoid, and in exanthems, scarlet fever, measles, or small pox, the action of mercury is injurious.*

We do not imply in this remark, that a mild mercurial purgative is not often advantageous, in the earliest stages of these diseases; but that they are characterised by a cessation of the processes of nutrition, especially in fever strictly so called, so that secretory and excretory functions are not performed, the body becomes extremely wasted and enfeebled, the skin readily gives way, and bed sores are produced; every function is at a stand; and in whatever the proximate cause of the disease may consist, whether in some hidden change in the forces of life, or in the circulating element, the blood, practice confirms the theory, that mercurial action is injurious. In these diseases, also, local inflammations arise, as of the brain, of the lungs, or of the abdomen; there may be all the excitement and delirium of acute cerebral disease; or the physical and general signs of

consolidation of the lung, or of acute mischief in the abdomen; in any of these conditions to attempt to reduce the local changes by mercury would be, in most cases, to exhaust still more the well-nigh ebbing powers of life; and it is the part of a wise physician to guide and to sustain in this contest rather than to be vainly attempting directly to control or to cut short diseased action; the latter, whenever attempted, is followed by disappointment, or fatal injury. Many of the cases of so-called fevers, checked in their onset, or cut short in their progress, have been either simple febricula or have had a miasmatic character; and it is one of the disadvantages of our science that it is easier to make statements as to the probable course of particular symptoms, than to contravert the statement when made.

4. *In conditions consequent on great exhaustion, whether from over fatigue, mental anxiety, insufficient food and exposure, preternatural drain or loss of blood, the use of mercury is fraught with injury.*

Such a proposition might appear unnecessary, but the symptoms arising from these states of exhaustion are so anomalous, and so closely resemble conditions arising from repletion, that they are mistaken, maltreated, and we have several times witnessed with pain, patients who were suffering from these causes, salivated as the best remedy for neuralgic pain in the back, the sides, the face, or the head.

The evidences of diminished power with increased irritability, are severe pain in the head, at the vertex,

or at the forehead, sometimes intensely acute, and resembling tic doloreux, with singing noises in the ears, or a sound like the droning or humming of insects, or of falling water; the disturbance of the sense of sight, shown by imperfect vision, muscæ volitantes, or even strabismus; increased sensibility of the nerves of general sensation and motion, producing severe neuralgic pains, or the spasmodic contraction of isolated muscles, or the opposite condition, anæsthesia. These nervous symptoms may so far simulate disease of a different kind, as to tempt the practitioner to adopt depletory measures, and sometimes to give mercurials freely. Some forms of epilepsy are of this class, and transient attacks of hemiplegia closely simulating true apoplexy. Of the same character are pains often complained of in the course of the spinal nerves, producing sudden muscular contraction, and a transient tumor, as in the straight or oblique muscles of the abdominal walls, the quadratus lumborem, &c., conditions long since noticed by Dr. Addison as phantom tumors, and more recently well described by Dr. Inman. At other times we find the fascial structures are more especially affected, and we have symptoms resembling rheumatism in the loins or the back, severe pain in the side or in the neck. To mercurialize in these cases is to mistake their character, and to cast a blot on medical practice. The following instance is a sample of what occurs amongst the poor, as well as amongst the rich, although in the latter the symptoms arise from different exciting causes.

A poor woman, Mary W., aged 50, came under my

care, suffering from severe pain in the loins; she had been living in great poverty, supporting herself and five children with her needle, partaking of animal food very rarely, and with great difficulty sustaining life; thin and feeble, overworked and badly fed, she suffered severe pain in the back, probably from overstretched fascia, and an irritability of muscle without corresponding power. To relieve this state, though it is scarcely to be credited, she had been salivated and still more exhausted, and for about three weeks rendered wretched and miserable; slowly, with more generous diet, and avoidance of such medicine, she recovered.

5. *In the state of feebleness to which we have just alluded, it is very common to have passive congestion of some viscera leading to enlargement of those organs, and the imperfect performance of their functions.*

Dr. Oldham has shown this to be a common cause of uterine enlargement after parturition or menorrhagia, or over exertion in women with feeble circulation, the womb becoming filled with blood, and the viscus enlarged and heavy. Vague signs of distress come on, of pressure, bearing down, pain in the groins, or lower part of the abdomen, or in the region of the stomach or side, irritability of the bladder and rectum. There is no doubt of the cause of all this discomfort; the uterus can be easily felt considerably beyond its proper size, and low in the pelvis; some apply leeches, some iodine, or they give it internally, and keep the patient on spare diet; but we can bear

our strong testimony to the benefit of an opposite plan of treatment; rest in the recumbent position, a generous diet, quinine and tonics, and even steel, so as to quicken the circulation, give more power to the weakened heart, vessels and capillaries, and to the relaxed muscular fibre. The mercurialization of such patients suffices to produce other symptoms of nervous exhaustion, severe neuralgic pains, hysteria, and very frequently a prolonged season of weakness.

6. *In cancerous disease it is generally acknowledged that mercurial action tends to increase that state of mal-nutrition which causes the deposition of heterologous deposit.*

We need not further dwell upon the subject, than to state that even in those forms of cancer which approach most closely to chronic inflammatory deposit, we have no proof that mercurial action tends in any degree to promote absorption. We often find mercurials resorted to in the pleurisy or peritonitis arising from cancerous deposit; opium alone, or with salines, will be found as efficaceous, and generally much more so, than in the favourite combination with mercury.

7. *The use of mercury in renal disease* is still advocated by some physicians, not in the chronic forms, but in the acute state where dropsy is suddenly developed. It is generally found that the gums are very easily affected, and the patient profusely salivated. Many cases of this kind are recorded in Dr. Bright's earlier reports, but none appeared to be benefitted by the action; and it sometimes happens that the profuse sali-

vation from a small dose of calomel or blue pill, has first revealed chronic disease of the kidney. But in the acute form of the disease, some speak well of its moderate use, still I am strongly of opinion, that other means, as for instance diaphoretics, warm baths, hydragogue purgatives, and sometimes cupping on the loins are more beneficial.

8. *In diseases of the mucous membranes, mercury is of very doubtful efficacy.*

In severe forms of bronchitis, mercurialization enfeebles the strength, so that when the expectoration becomes more free and abundant, there is not sufficient power to separate the purulent mucus; or the bronchial tubes become relaxed, and they are more disposed to dilate, and the secretion become profuse. Mercury is, however, in these cases of value as a purgative, as we shall have afterwards to mention, by unloading the portal circulation, and by increasing the secretions from abdominal glands, it diminishes the distension of the right side of the heart, and also the pulmonary circulation. It is in diseases of the alimentary mucous membrane, that some have strongly recommended it, in diarrhœa, in enteritis, in dysentery, and in cœcitis. In enteritis, the secretion from the membrane is changed, diminished, or rendered abnormal in quantity or character; the muscular coat becomes then involved, and peristaltic action is checked; if the disease extend still deeper into the tissues, the peritoneal coat becomes also affected. In many instances, the mucous membrane

is destroyed, and ulceration of a more or less extensive character is the result, preceded frequently by a diphtheritic deposit on the surface of the intestine. Demulcents, salines, and opium, and sometimes local depletion are of great value in these instances; mercurials serve to increase secretion from the membrane, to unload congested vessels, and to empty the canal of offending ingesta, but if ulceration exist, their tendency is to increase it. In cœcitis and in dysentery, except where scybala are retained, and the secretions manifestly disordered, we have not found the beneficial result, which has been described by Annesley, Sir Henry Marsh, and many others.

9. *It is in so-called inflammatory disease of parenchymatous organs and viscera, of the brain and lungs, of the serous membranes as of the pleura, pericardium and peritoneum, that the greatest measure of benefit has been said to accrue from the free use of mercury; but the opinion formed from carefully watching instances of these diseases where mercury has been so given, and comparing them with others where no such remedy was prescribed, is not such as to confirm the high eulogiums it has received.*

As with venæsection, so with the administration of mercury; we do not deny that there are cases where they may be employed with great benefit, but their use ought to be the exception, not the rule. In acute disease of the meninges or of the substance of the brain, mercury is usually administered; and numerous

instances are recorded where the acute symptoms have subsided as soon as the gums have become affected; we have seen such cases many times; but in many others we have observed the disease advance unchecked to a fatal termination, especially where there has been a strumous diathesis or tubercular deposit in the brain or its membranes; and in these instances, as well as where the disease has followed from blows, we have seen results as satisfactory from the use of other means. The administration of salines, as bicarbonate or iodide of potassium, &c.; the avoidance of all stimulating diet, as animal food, alcoholic liquors; the free evacuation of the bowels, with perfect rest from excitement of the mind or senses, have been as salutary in their effects without producing the depression consequent on mercurial action.

In consolidation of the lungs there is fear lest by mercurial salivation, the fibrino-albuminous effusion, instead of becoming absorbed, may become more abundant, less organised, and should rapidly degenerate, as in the strumous infiltration. We have frequently observed instances of consolidation increase in extent as long as mercury was continued, but as soon as salines and improved diet were given absorption very rapidly took place. It may be said, that the mercurial had effected its beneficial purpose, and was no longer needed; but instances where mercury was entirely avoided have shown equally rapid absorption; and we have known an instance where consolidation was disappearing and then mercurials administered from the prejudice that it

was necessary to hasten complete absorption, but really with the effect of retarding recovery. It must also be borne in mind, that very many cases of acute disease of the lungs recover without any medicinal treatment, and many others die whatever plan of treatment may be resorted to. It were easy to record instances of this kind, but we are of opinion that right medicinal treatment will assist reparative changes and retard diseased action, and that frequently without this judicious method the subsidence of disease would not take place; and several instances are briefly given, where salines only were used, others where mercury was used so as slightly to affect the mouth, and others where ammonia and stimulants were manifestly the only right practice.

Such are the modifying causes of acute disease of the lungs, that every instance must be separately considered in its own peculiarities. Thus, 1, atmospheric changes or epidemic causes may lead to gangrene of the lung, as in the epidemic of influenza in 1848; 2, the effect of impure air may lead to a typhoid character of disease; 3, it may be consequent on exhaustion from poverty and privation; 4, a most important modifying influence is observed where disease of the lung comes on in the course of other diseased action, sometimes as a mere complication, or as the natural development of the disease, as in pyœmia, in fever, in exanthems, in erysipelas, after surgical operations, or towards the close of exhausting disease; 5, it is modified by strumous diathesis or by cancer; 6, by the age of the patient; 7, by the condition of the pneumogastric nerve, or of

the whole nervous system; 8, by cardiac disease; or, 9, there is modification where it has arisen from direct violence to the pleura or lung.

Case 1.—Jemima P., aged 16, a servant of all work, residing near Portman Square, was admitted into Guy's Hospital under my care, June 17th, 1857. Her grandfather had died of phthisis, but she had always enjoyed good health. For several months before her illness she had worked very hard; one week previous to that time she was seized with pain in the right side, increased on a deep inspiration; there was a dry cough, the skin became hot, and she had much headache and thirst; in this state she continued at work for several days. On admission, she appeared to have been a healthy girl, moderately well nourished; there was no tremor or prostration, the complexion slightly sallow, the skin moist and clammy, not particularly hot, the respiration 32, the pulse 85, feeble and small; there was slight diminution in the mobility of the right side of the chest, dulness at the right base, tubular breathing and bronchophony; under the left clavicle there was dulness, with some bronchial respiration. The tactile vibration was slightly diminished on either side: the sounds of the heart were normal, the tongue moist, and furred; there was some perspiration at night, and sleeplessness. There was loss of appetite; the abdominal organs were apparently healthy. She had not menstruated; the urine was healthy, sp. gr. 1020, the chlorides scanty.

She was ordered bicarbonate of potash ten grains in

saline mixture (citrate of potash), every six hours: as food, milk and beef tea were given.

June 19*th*. Less pain in the side, and no pain in the head; she had a good night, and less perspiration. Respiration 32, pulse 85.

20*th*. The dulness at the right base and the bronchial respiration were less marked.

22*nd*. Improving; slept well, no abnormal perspiration, tongue clean, appetite returning—meat diet ordered. A few days later, quinine mixture was ordered three times a day. On the 28th, the respiratory murmur was restored throughout both lungs; there was no dulness, the cough had disappeared, the skin was cool, the tongue clean; pulse 65. On the 30th she left the hospital nearly well.

This case appeared to have been one of slight pleuropneumonia, producing some effusion into the pleura with consolidation of the lung. The patient was a girl who had been overworked, and was in poor circumstances, and not free from tendency to strumous disease. There was evidence of inflammatory disease of the chest, without urgent febrile symptoms; the clammy, perspiring skin appeared to indicate diminished power. It was evident that this was not a case for depressing remedies; and the nourishment ordered was milk and beef tea; as soon as the appetite returned the patient was allowed meat. Saline medicines were given; but calomel, antimony, and opium withheld; in a week she was convalescent; and two weeks from the commencement of the attack the signs of consolidation had disappeared.

We believe that if mercurials had been given in their mildest forms, although at the end of the week the lung tissue might have been equally free, the patient would have been in a more prostrate condition, and convalescence much retarded.

Again, it may be said that she would have recovered equally well without the use of salines; that would probably have been the case, but it may be that the salines facilitated the absorption of the effusion.

As to a stimulating plan of treatment, it appeared uncalled for, there was not evidence of sufficient prostration of strength to warrant it; and the introduction of alcoholic fluid would perhaps have increased the work the lungs had to perform, without hastening their return to healthy action.

In this case, then, we believe salines, with nourishment as the patient could take it, were the best mode of treatment.

Case 2.—David T., aged 27, a carpenter residing in the Borough, was admitted under my care into Guy's Hospital, August 27th, 1857. He had been accustomed to drink rather freely, but his previous health had been good till eighteen months ago, when he had a blow on the lower part of the chest, and subsequently severe pain at the part. On August 22nd he was seized with pain at the lower part of the left chest, with cough, and the symptoms increased till admission on the 27th. He then had an emaciated appearance, the cheeks slightly flushed; there was herpetic eruption about the lips, the skin was hot, but moist, the cough troublesome; appe-

tite bad; the bowels loose; the tongue white. A large blister had been placed on the chest, and the surface was still raw. At the base of the left lung there were dulness on percussion, minute crepitation, some tubular breathing as well as friction sound; the expectoration was tenacious, and slightly rust coloured. He was ordered bicarbonate of potash fifteen grains, ipecacuanha wine ten minims, in the julep of acetate of ammonia, every four hours. Beef tea and arrowroot.

29*th*. The respiration was more easy; the cough and pain were less. On the 31st the tubular breathing and dulness were less; the tongue clean; he was allowed fish or chop.

September 3*rd*. The respiratory murmur was nearly restored, and the patient was considered convalescent. Some pain, such as he had had for many months, still continued. He was kept in the hospital till the 26th, and left well.

There was every indication in this case of pleuro-pneumonia at the base of the left lung; it continued from twelve to fourteen days, when the product which had been effused was apparently almost reabsorbed. He had not been very temperate in his habits, but there was no prostration of strength or typhoid symptoms to indicate the necessity for stimulants. We believe that mercurial preparations would have retarded his recovery.

Case 3.—George S., aged 27, was admitted under my care into Guy's Hospital, June 27th, 1857. He was a married man, who had been employed as a

stableman, and had been accustomed to drink freely, but had generally enjoyed good health till December of the previous year, when he took cold, and had a bad cough, which had continued more or less since. On June 19th, he was seized with severe pain at the scrobiculus cordis, which lasted five or six days, and was then transferred to his loins; but he had no pain elsewhere; febrile disturbance, loss of strength and appetite then supervened, with constipation, and inability to sleep at night. He was a strongly built man, of light complexion; who, although feeling very ill, did not suffer pain unless he took a deep breath; his face was flushed, the skin hot and dry; the tongue was much furred; and there was no inclination for food, but the bowels were open; pulse 120, respir. 27. On examining the chest it was observed that the left lung did not expand equally with the right; at the base of the left lung there was considerable dulness on percussion; there was tubular breathing, and bronchophony, but no diminution of tactile vibration. In front, the dulness extended above the third rib. He was ordered grey powder, five grains; followed by castor oil, half an ounce; and bicarbonate of potash, one scruple in mucilage mixture, every four hours.

On the 29th he felt better, the skin less hot, but he had slept badly. The physical signs were unaltered. The pulse 80, respiration 24. The medicines were repeated.

30*th*. The cough was trifling, the tongue cleaner, the skin of natural warmth; he had slept better, and

there was some return of appetite. There was less dulness on percussion; and slight pleuritic friction-sound was audible.

July 2nd. The tongue clean, the appetite good, and the skin cool; at the left base there was less dulness, and the respiration was becoming normal; pulse 70, respir. 20; the expectoration slight. He was ordered fish diet.

4th. He was convalescent, sitting up, and said he felt well. Pulse 66, respiration 18. On the 17th he left the hospital.

This patient was admitted with evident signs of pleuro-pneumonia, apparently of eight days' duration; almost the simplest forms of saline medicine were given, and in a week he was convalescent. The intemperate habits of the man, as a stableman, precluded all idea of local depletion; and the case appeared to indicate that in this instance, even of pneumonic consolidation, absorption of effused products took place with great rapidity, as much so, if not still more than would have been the case if mercurials had been given to affect the system.

Case 4.—John L., aged 17, a labourer residing in Wapping, who had been accustomed to much exposure in his work, was admitted under my care into Guy's Hospital, June 24th, 1857. He had enjoyed good health till two years ago, when he had an attack of fever, which confined him to his bed for five or six weeks. Five days before admission he had slight rigor, and severe pain in his head came on, which compelled him to desist from work; on the following day he was seized

with pain in the right mammary region, which was much increased on full inspiration, and he had a dry, troublesome cough; his skin became hot and dry, and he suffered much from headache and thirst; the severity of the pain in the side prevented sleep at night; there was loss of appetite, and the bowels were costive; on the third day he began to expectorate. On admission he presented a strumous aspect; he had a dark complexion; was well nourished, and had no tremor or prostration; the skin was hot, very dry, and harsh; there was severe headache, stitch in the right side, slight cough; the sputa viscid, and somewhat rust-coloured. He rested most comfortably on the left side. The chest was well formed, but the mobility diminished; percussion on the left side was normal; at the right apex there was dulness, and below the right mamma there was a friction-sound, audible over a space five or six inches in extent; at the right apex there was minute crepitation, and about the central part of the lung there were tubular breathing and bronchophony, with slight increase of the tactile vibration; the sounds of the heart were normal; the pulse 86, regular, compressible, and soft; the tongue was furred in the centre, but red at the tip and edges; there was no apparent disease of the abdomen; the urine was abundant, sp. gr. 1022, and contained the usual amount of chlorides, but no albumen. He was ordered—Bicarbonate of potash, one scruple in mucilage mixture every three hours, and five grains of Dover's powder every night. On the 27th there was

less heat of skin, no pain in the head, and the respiration easier; pulse, 78.

June 29*th*. The friction-sound had disappeared, and so also the minute crepitation, and there was no pain, except on deep inspiration. A small blister was applied below the right clavicle, and the medicines were continued.

July 1*st*. He was improving in every respect, and able to go about the ward; but the tubular breathing continued at the right apex.

6*th*. There was less dulness and tubular breathing at the apex, but it still continued to a slight extent; he felt well, and wished to leave the hospital. In three months he again showed himself, strong, ruddy, and stout; and without any evidence of disease in the lungs.

In this case we had a strumous lad, admitted with acute pleuro-pneumonia at the right apex. The signs were well marked, and there was much febrile excitement. Salines and Dover's powder were given; in a few days the more severe symptoms had disappeared. In one week he was about the ward, and a week later he left the hospital. At that time, however, some consolidation still remained at the apex, slight in extent as compared to that previously existing, but still well marked. The disease was principally at the apex; this, in a strumous subject, would lead us to some additional care, lest the pneumonic product should rapidly break down, and pneumonic phthisis be the result. It was a question whether, if calomel and antimony had been given, there might have been more rapid absorption of

the product of disease; we think not, but rather that increased danger would have existed of the breaking down of the lung tissue, and if such an untoward circumstance had not followed, we think that the patient would have been exhausted, and rendered anæmic by the mercurial action, and that convalescence would have been greatly retarded. We are far from stating that instances do not exist in which the use of mercurials and antimony are of great service; but, we believe, their use has been too indiscriminate where acute pneumonic consolidation of the lung has been found without evidence of depression or exhaustion.

Case 5.—Thomas C., aged 15, admitted into Guy's, July, 1857. He had been employed at an ironmonger's shop, where his work was heavy. He was of healthy family, and had always enjoyed good health till four years ago, when he had a severe blow on the head from a cricket-ball; this brought on an illness from which he suffered for two months, and he had intense pain in the head, with delirium; he recovered, but six months ago again had vomiting, headache, and loss of appetite. On June 29th he had a swimming bath, and on the following evening went to a very crowded place of worship. Next day, July 1st, he felt ill, and on the 2nd was obliged to remain in bed; he had shortness of breath and febrile excitement, thirst and loss of appetite, and felt exhausted and helpless.

He was placed under medical treatment on the 3rd instant, and was then in a semi-delirious state, the skin was pungently hot, and he had signs of acute pleuro-

pneumonia on the right side. Calomel, antimony, and opium, were prescribed for him, and he was ordered to be cupped to eight ounces from the right side; the head also to be shaven. This treatment was continued for three days, and on the sixth he was transferred to my care, in the clinical wards of Guy's Hospital. He was a fair-complexioned lad, with long eyelashes; short in stature, his head preternaturally large. On the 6th he had a distressed and anxious countenance, the mind clear and intelligent, the face flushed, the head hot, the lips deeply injected, the pupils dilated, the respiration gasping; he lay on his back, sunken in the bed, and was exceedingly restless; the face was bathed in perspiration; the skin in other parts dry, and the trunk intensely hot. On examining the chest in front, there was increased dulness at the base of the right lung, and tubular breathing was audible; posteriorly the right side was dull from the base to the apex, especially at its lower part; tubular breathing was heard over the whole of the right side, and in the right axilla; the vocal fremitus was diminished, but bronchophony audible. There was puerile respiration on the left side; the abdomen was distended, hot, and tympanitic; no maculæ were present. He had slight cough, and his voice was faint; the tongue was red, and much congested; the urine was scanty, high-coloured, and slightly coagulable by heat and nitric acid, and there was only a slight trace of chlorides. The respiration was 44 per minute, and the pulse 130, small and sharp. There was some pain in the head and limbs, but most

in the abdomen. In this youth there was evidently acute inflammation of the right lung, apparently produced by exposure, and associated with inflammation of the pleura. Severe constitutional disturbance ensued; delirium (perhaps from inflammatory congestion of the brain and impure blood) and great engorgement of the abdominal organs followed, so that the urine became slightly albuminous. It was doubtful whether the case was one of fever with thoracic complication, but the symptoms did not fully warrant the idea. When he came under my care he had been ill for eight days, and appeared almost in a dying condition, prostrate with clammy sweat, and exceedingly restless. It was thought well to leave off the calomel, antimony, and opium, on account of the prostrate condition, and bicarbonate of potash, with seven minims of the solution of acetate of morphia, with julep of acetate of ammonia were given three times a day; and beef-tea, arrow-root, and milk as he could take them.

On the 7th he passed a restless night, had no sleep, the pain in the abdomen had increased in severity; in other respects he was as before.

On the 9th he had slept well; there was less distress and pain; the pulse 112, respiration 36.

On the 10th he had improved somewhat; the dyspnœa and restlessness were diminished, and he had rallied considerably; the albumen in the urine had disappeared. The signs on the right side of the chest were as before, and it appeared that effusion had taken place into the

pleura. His cough was troublesome, but he swallowed the expectoration, which was scanty.

On the 16th, ten days after admission, it was determined to give him mild mercurial; and Dover's, with grey powder, were given night and morning, and the saline mixture with morphia continued; he was allowed fish. For the next ten days this treatment was followed, and with improvement in the symptoms; the gums became very slightly affected. He was, however, very ill, anæmic, prostrate, and the dulness and tubular breathing continued at the base of the right lung, less than before, but still marked; crepitation, and afterwards nearly healthy respiration had reappeared at the apex. A blister had also been applied, and mild diuretics, as nitric ether, were given.

On the 27th a chop and vegetables were allowed, with four ounces of sherry wine; and

On August 3, solution of cinchona, ten minims, with aromatic spirit of ammonia, were ordered three times a day, and a third of a grain of morphia every night. Under this treatment he improved rapidly, and in a few days was able to move about the ward; the dulness and tubular breathing slowly diminished in the right side; but had not entirely disappeared when he left the hospital on August 27th.

This case was one of deep interest, both as to the diagnosis and as to the most judicious mode of treatment. At first it was doubtful whether the case was one of fever, but all those who watched it were soon satisfied that it was one of pleuro-pneumonia,

in which serous effusion took place into the cavity of the pleura. The albuminous condition of the urine arose probably from great engorgement of the kidneys. Some might affirm that mercurial treatment was inappropriate, others that wine was too long withheld. On July 6th, the prostration and almost sinking condition appeared to preclude the continuance of so-called antiphlogistic treatment, but we believe that no good result would have followed at that time from the use of wine or brandy. Mild salines with morphia, and beef tea, milk, etc., were preferred. After he had partially rallied, small doses of mercury were given, so as very slightly to affect the mouth, and *apparently* with the effect of diminishing diseased action and hastening absorption; afterwards, the febrile symptoms having subsided, bark and ammonia, with wine and meat diet, were prescribed, and were followed by rapid improvement. The question naturally suggests itself, whether if salines had been given from the first, and stimulants at an earlier period, if no depletory measures had been used or calomel and antimony administered, the same degree of prostration would have ensued, or the absorption of effused products have been so tedious in their disappearance, or even have amounted to the same extent; or would the patient have succumbed from the increased severity of the disease? In reviewing the whole course of the case, we believe that mercurials were injurious.

Case 6.—Thomas H., aged 30, a carman, of very steady and industrious habits, was admitted into Guy's

Hospital, under my care, May 20th, 1857. He had resided in the city, in Trinity Lane, and was married and temperate. Three weeks before admission he experienced pain in the left side, but continued at his work; for several days there were febrile excitement and loss of appetite. He applied at the City Dispensary, and was under treatment for several days, but on admission into Guy's Hospital was exceedingly ill. On the 20th he had an anxious countenance, the skin hot and slightly clammy; there was dyspnœa; the tongue was covered with a brownish fur; the bowels were open; the pulse 112, sharp; the respiration 42. On examining the chest, the left side was found enlarged and dull on percussion. There was diminution of tactile vibration; tubular breathing except at the base, where there was absence of sound; the heart was somewhat pushed over. On the right side there was minute crepitation at the angle of the scapula. The expectoration was tenacious, frothy, and rust-coloured; there was much thirst, and he had slept badly from the troublesome cough; the urine was not albuminous. There was evidence here of pleuritic effusion on the right side, perhaps with some consolidation, and there appeared to be lobular pneumonia also on the left side. He had been under treatment for three weeks before he came under my care. He was ordered iodide of potassium, three grains, with the compound conium mixture of Guy's, three times a day; Dover's powder, five grains every night, and a blister to the right side. Beef tea and milk diet. On the 24th, four days after admission, he was still

very ill; there was no improvement, but the dyspnœa appeared to be increased. He was then ordered grey powder, two grains, with Dover's powder every night, and ipecacuanha wine, ten minims, with the conium mixture, every six hours, and to rub in the mild mercurial ointment. On the 28th he was better; the mouth was slightly affected with the mercury; the pulse and respiration were still very rapid, but the dyspnœa less distressing. He was ordered to omit the mercurial and Dover's powder, the inunction and the mixture, and to take solution of acetate of morphia in mucilage mixture three times a day, and in addition to the beef tea and milk, to take two eggs.

On the 30th he was much improved. The pulse rapid, but the respiration much more easy; the expectoration frothy, but less rust-coloured.

On June 8th there was coarse rhonchus on the right side, and still tubular breathing on the left; the tongue was clean, the skin less pungently hot; respiration 32, pulse 116. His diet was improved, and he continued slowly to gain strength. In about six weeks he had so much improved as to be able to leave the hospital and go into the country, but there was still some tubular breathing at the left side, and dulness on percussion at the base. Cod-liver oil was prescribed, and generous diet.

Oct. 6th. He called on me to show himself; stout, and having walked three to four miles at once. On examining the chest, although there was vesicular breathing at the left base, there was not perfect resonance on percussion, probably from pleuritic adhesions

remaining; at the left apex the resonance on percussion was imperfect, the respiration coarse, and the expiratory murmur prolonged. When he was exposed to cold air, a slight cough troubled him; the pulse was preternaturally quick, and his appetite since he had returned to London had fallen off.

This man, on admission, was almost in a hopeless state; the pleuritic effusion was great, and associated with pneumonia; and it was throughout doubtful whether strumous deposit did not also exist. Mercurials were for four days avoided, but conium mixture, with iodide of potassium, given; and it must be remembered that he had been under treatment three weeks before I had seen him. Four days after admission, mercurial inunction was used, and small doses of grey powder, &c., given; the mouth became very quickly affected, and the dyspnœa very much diminished. More generous diet was given, and morphia with mucilage mixture, and, after several weeks, cod-liver oil. It might appear, as we then believed, that the mercurial was of value in this case; that it stimulated to the absorption of the serous effusion, and relieved the dyspnœa; but, the improvement was probably due as much to the action of the morphia, and became more speedy when generous diet was given. Mercury was used in its mildest form, so as very slightly to affect the mouth; and although the dyspnœa was less, the reabsorption of fluid was exceedingly slow, and a long and protracted recovery must, we fear, be considered as due to the use of mercury in this case.

Case 7.—An Irish lad, aged about 20, two years ago was admitted under my care into Guy's Hospital; having been brought from a small lodging-house near the London Docks. He was emaciated; the countenance flushed; the pulse compressible and quick; the tongue dry and brown, and he in a very prostrate condition but perfectly sensible; he had slight cough but no marked dyspnœa. On examining the chest, the dulness, tubular breathing, and bronchophony, &c., indicated consolidation of the lung. He had been ill for about three weeks, but there was no proof of fever. This lad rapidly improved under ammonia and serpentary, and wine freely administered. With this patient there was no doubt as to the impropriety of depletory measures, or of administering antimony and mercury; and, although he would probably have recovered under the better nursing, suitable diet, and purer air, wine and ammonia probably much hastened his recovery. This was a case of typhoid pneumonia, which closely simulated true fever, and one in which the administration of stimulants is often attended with benefit.

Case 8.—Mr. A., aged 58, was seen by me in consultation, Jan., 1858; he was a spare man, of temperate habits but aged in appearance; one week prior to my seeing him he had been seized with severe pain in the right side; the following day he was better, but on the fourth day was again exposed, when the pain and other symptoms returned with increased severity. On the seventh day he had a haggard, distressed countenance, cough, scanty expectoration; he suffered severe pain in

the right side; respiration 70; tongue dry and brown; pulse 90; he had had very little sleep and almost refused food; urine scanty, high coloured, and non-albuminous. *Chest*—dulness at the base of both lungs, but especially on the right side, with tubular breathing; no evidence of disease of the heart; abdomen rounded, and tender in the region of the liver; calomel, antimony, and opium had been given, and blisters applied. Carbonate ammonia and acetate of ammonia were then prescribed with potash, senega and morphia. Wine and nourishment freely administered. The symptoms subsided, and this patient did perfectly well; at the time I saw him, he was almost in a hopeless state, becoming rapidly prostrate; there was evidently acute pleurisy, with inflammation of the right lung, but salines, ammonia and morphia with stimulants were apparently the means of sustaining him during the severity of the disease.

Case 9.—Isaac T., aged 48, a large muscular man, was admitted under my care into Guy's Hospital, in September, 1859. He had been employed in cleansing the docks, &c.; for five weeks he had had slight cough, but for one week had had severe pain in the right side; he was in much distress from the severity of the pain, and from febrile excitement; the skin was slightly sallow, hot but moist, and there was tenacious rusty expectoration. At the base of the right lung a friction-sound was audible, there was dulness on percussion and some minute crepitation, but the air entered the lung very imperfectly; he had slept badly at night; the urine was

not albuminous. He had taken malt liquors freely. Before I saw him several doses of calomel, antimony, and opium had been given, but with no relief to the symptoms. Citrate of potash with acetate of morphia were administered. Increased prostration followed, the pulse became very compressible; there were some subsultus tendinum, tremor of the tongue, clammy perspiration and delirium at night. Ammonia with serpentary were given every six hours and wine ten ounces. On the following day he was much improved; and although the cough continued for a few days, and the pleuritic rub was very distinct in the right side, in seven days more he was convalescent, and left the hospital.

When I saw this case, it was evidently one that would not bear mercury, and it was soon manifest that a freely stimulant mode of treatment must be adopted.

Case 10.—An infant, aged 2 months, seen in consultation in March 1858. It had had cough for seven days, dyspnœa, and occasional slight convulsions; the skin was pale and clammy, the child prostrate, there were in the chest general small bronchitic râles, the respiration not hurried, but the lips of a pale, bluish colour; a leech had been applied to the sternum, and antimony given, afterwards senega and ammonia. The child was able to take the breast. The maintenance of a moist, equable temperature was urged, the breast to be frequently given to the infant, and the solution of citrate of ammonia, with carbonate of soda, and a small quantity of ipecacuanha wine administered. This child

completely recovered; but the continuation of antimony and the use of calomel would have taken away the only chance of life.

The above cases are adduced as examples, from which the following conclusions may be drawn:

1st. That active mercurial, antimonial, and opiate medicines are not necessary in many cases of pneumonia, even without depression, and when seen at an early stage. We are well aware that this is somewhat contrary to the published opinions and the practice of many whose experience and talents demand profound respect and attention.

2nd. That convalescence rapidly takes place in many instances under saline plan of treatment, as bicarbonate of potash, as shown by Dr. Hughes Bennett and others.

3rd. That while cases of pleuro-pneumonia, especially in young subjects, as were several of the cases related, may recover even without any medicinal treatment; that salines appear to be of some value, perhaps by increasing the action of the secreting organs, modifying the character of the blood, and hastening the absorption of effused product.

4th. That in other instances in which mercury appeared to be of value, especially where there was considerable pleuritic effusion, slow absorption and retarded convalescence may warn us against its use.

5th. That in some, especially where there is much bronchitis, with great febrile excitement, without prostration or struma, antimony also is of much service;

but that the indiscriminate use of calomel and antimony in very many cases retards convalescence, interferes with the return to healthy nutritive action, and should be avoided.

6th. That opium alone, or as its alkaloid, morphia, is also a valuable remedy in pneumonia, either combined with ipecacuanha, as in Dover's powder, or with antimony, when that is admissible; that it acts possibly by diminishing the frequency of the respiratory act, by its action on the nervous system, increasing diaphoresis, when combined as just mentioned; quieting the nervous system, relieving pain, and diminishing the excitability of the bronchial tubes.

7th. That while in some cases general or local bleeding may be called for, such are exceptional cases now; and that many instances, on the contrary, require the liberal administration of nourishing diet, and in some cases stimulants.

8th. That each case must be judged by its own peculiarities; and whilst many, from their age and other circumstances, will probably recover under most varied treatment, other cases, of which I might adduce many instances, almost invariably die,—as those arising in persons of very intemperate habits, or where it follows in the course of pyæmia and allied conditions.

We have thus sought by these instances to show, that whilst calomel and antimony are *apparently* sometimes of value, much more frequently they may be dispensed with altogether in cases of acute pleuro-pneumonia, rapidly advancing to consolidation of the lung, where, a

comparatively short time ago, these remedies would certainly have been prescribed.

In acute pleurisy, pericarditis, or peritonitis, it is the ordinary practice to administer calomel so as to affect the gums; and because rapid absorption takes place sometimes during salivation, to consider the remedy as beneficial; but it would be well to regard also those cases where the disease subsides without any mercury, as well as those in which the effusion steadily increases during salivation and depletory measures; and where unless such treatment were given up a fatal result would most likely ensue. A few months ago, a man aged about 30, was under my care, in whom acute pleurisy had come on, with severe pain in the left side, febrile symptoms, &c. Depletion had been used freely, so-called antiphlogistic remedies given largely; the patient was rendered prostrate, blanched, and then told that nothing more could be done. The left side of the chest was completely dull, the lung compressed; instead of mercury, opium, quinine, and wine were given; the fluid was rapidly absorbed, the lung re-expanded, and the patient completely recovered.

The following case was one of *acute pleurisy* in a young man, in whom there was marked effusion, but which gradually disappeared without any administration of mercury:—

Joseph C., aged 29, a strong, muscular man, of temperate habits, a boatbuilder, applied to me amongst the out-patients at Guy's Hospital, stating that he had had severe stabbing pain in the left side. I found the

left side completely dull, with bronchophony and distant tubular breathing, and loss of tactile vibration; there was some dyspnœa, and very slight cough.

He was recommended to take spare diet, avoiding meat and stimulants. Occasional purgatives of jalap were given, and potash salines, and a blister applied to the side. Under this treatment he steadily improved, and in a few weeks the lung had expanded, the surfaces of the pleura had again come into contact, without the prostration, and excessive anæmia, which often arise from mercurial salivation.

In the treatment of *acute peritonitis* we have earnestly sought for some proof that benefit is due to mercury, and not to the doses of opium given with it; *idiopathic peritonitis is exceedingly rare*, the ordinary causes are ruptured intestine, extension of disease from other viscera, tubercular or cancerous deposit, great hyperæmia arising from obstructed circulation, poisoned condition of the blood as in pyæmia, uræmia, &c. In many of these forms of disease, the direct beneficial effect of mercury is very problematical; in some its use would be injurious, in others opium alone is followed by equally good results. We have already mentioned one instance of strumous peritonitis in which opium alone was thus serviceable, and we might multiply cases of every form where relief or cure followed without the use of mercury.

The use of mercury in the treatment of *croup* has been strongly recommended by physicians;—in many cases we have observed death take place before the

mercury could exert any beneficial action, but where life has been prolonged, it may have *appeared* to prevent the formation of false membrane, and to promote its evacuation; but, emetics, local depletion, warmth, salines, have been followed by results as satisfactory; and we are disposed to believe that much of the benefit attributed to the mercury has been due to other causes, and that many of those cases would equally have recovered under other treatment.

10. *In rheumatism and rheumatic disease of the heart, the advantage accruing from the use of mercury is not equivalent to its injurious effect.*

In rheumatic fever, mercury is frequently given with the idea of preventing disease of the heart and its membranes and valves, or if already affected, of causing reabsorption of the deposit. We have given mercury in these instances, and have seen them go on as if uninfluenced by it; we have known cardiac disease come on during salivation, and on the contrary have seen rheumatic fever quickly subside under the use of salines and opium without any mercury. It is probable that if no fresh exciting cause be added the disease will of itself in most cases naturally subside; but treatment may facilitate recovery, and assist in preventing permanent organic lesion. Dr. John Taylor, in a paper read before the Royal Medico-Chirurgical Society, in 1849, shows that the supposed anti-phlogistic power of mercury in the treatment of pericarditis had not been fully

established; and from the observation of 40 cases he had been led to the following conclusions:—

1. That salivation was not followed by any speedy abatement of pericarditis in 16 cases.

2. That salivation was followed by pericarditis in 5 cases.

3. Salivation was followed by an increase in the extent and intensity of the pericarditis in 3 cases.

4. Friction-sound ceased two days before the mouth became sore in 2 cases.

5. Salivation was followed by a speedy diminution of the friction-sound in 2 cases, but did not cease, however, for some days later.

6. Pericarditis ceased soon after salivation in 2 cases; in one of them, however, it had been declining for some days previously.

7. Mercury was given, but no salivation followed in 7 cases.

8. No mercury was given, and no other treatment was adopted in 8 cases.

9. That other inflammations come on during salivation.

Dr. Risdon Bennett, in a paper read before the Medical Society, in 1851, and reported in the 'Lancet' of December 6th, advocated similar opinions, stating that "he was by no means prepared to recommend the abandonment of mercury altogether, but he was quite satisfied that in many cases of acute rheumatism the system could not be brought under its full influence without very materially increasing the danger."

Dr. Latham, in his work on diseases of the heart, advocates the use of mercury in large doses as a purgative in the treatment of rheumatism; but in endocarditis and pericarditis recommends that it should be given to salivation; that its power consists "in constraining the morbid energy of the blood-vessels, and counteracting the power by which the inflammation is carried on," and that it aids the reparation of parts by promoting the removal of substances foreign to them, whether fluid or solid, which the inflammation has produced and left behind.

Fuller says that "no case of rheumatic carditis, occurring in a strong and healthy person, can be safely treated without mercury;" and Hope, in writing on the same subject, expressed a similar opinion, that the success of mercury in pericarditis, is restricted to the condition of its producing salivation, and producing it rapidly. "From many observations," he says, "I am satisfied of the general truth of this remark, and would give the remedy on this principle."

Thus high authorities recommend mercury, Latham, Hope, Fuller, &c. Stokes says that it is of great value if given in large doses. Trosseau and Pidoux, in speaking of acute rheumatism, state—"Il nous a semblé que les accidents du côté du cœur avaient été beaucoup moins frequents."

But our experience has led us to believe, that when it is used to produce salivation the patient is often rendered intensely wretched, anæmic, and exhausted;

the convalescence is retarded; and a recurrence of the disease facilitated.

Instances of rheumatism might be adduced in which every form of treatment appeared to be successful, but several are given where mercury would by very many practitioners have been administered to produce salivation, although as we believe with less satisfactory results.

Disease of the Heart. Rheumatism. Pleurisy.

Emma P., aged 31, a married woman, residing at Deptford, was admitted under my care, June 13, 1859. She had had rheumatic fever three times previously, the first time when 13 years of age, the last attack seven years ago; and nine years ago she had paralysis. One month before admission she was seized with pain in the back, stomach, and sides, and had sore throat for two or three days. A few days subsequently dyspnœa came on. The legs then began to swell, and for three days she had had pain in them. On admission the skin was hot; she complained of acute pain in both legs, extending to the hip joints; but especially in the ancle joints. She had also pain at the scrobiculus cordis, and in taking deep inspiration in the right side; the respiration was slightly laboured, 24 per minute, pulse 78, weak. Percussion gave a dull sound at the left base posteriorly; there was also tubular breathing, and anteriorly a friction-sound was audible. The pericardial dulness was increased, and a double bruit was audible over the whole of the cardiac region, but most distinct over the aortic valves. She had no cough, but

perspired much; the bowels were confined, catamenia regular. Acetate of ammonia, with solution of acetate of morphia, and spirit of nitric ether, were given every six hours; a mustard poultice to be applied on the left side; beef-tea and arrowroot allowed. On the 15th the dulness posteriorly was diminished, the bowels confined. A purge of colocynth and calomel was ordered, and bicarbonate of potash one scruple in barley water, every four hours.

On the 18th the symptoms were subsiding, but she slept badly. The bicarbonate was ordered to be taken in decoction of bark instead of barley-water. Magnesia mixture, with colchicum wine twenty minims, at once, and every night soap and opium five grains.

On 20th she was much relieved, the rheumatism and dyspnœa had disappeared; the bruit not so loud; the patient able to sit up.

On 22nd she was able to walk about a little.

On 25th the resonance and respiratory sounds at the left base were restored to normal condition, but there was a slight crackling at the end of the inspiration, evidently pleuritic.

She continued steadily to improve, and was soon convalescent, and on the 2nd of July left the hospital.

This was an instance of the recurrence of rheumatism in a person whose heart was damaged by a previous attack of the disease. It was of an acute form, and associated with pleurisy. A mercurial purge was given, but otherwise salines and opiates alone were employed; in seven days after admission she was able to

sit up; and we believe, that if mercurials had been given freely, although the active symptoms might have subsided as quickly, the convalescence would have been much slower, and a greater probability of dilatation of the heart would have existed. The cardiac disease evidently consisted of valvular change, allowing regurgitation to take place through the aortic valves, and probably also implicating the mitral. These irreparable changes had been the result of her previous attacks, and the most important attainable object was to prevent the extension of the mischief, and the still more impeded action of the heart.

Acute Rheumatism. Heart Disease.

Mary Ann W., aged 16, was admitted into Guy's Hospital under my care, on August 17th, 1859. On the 14th she had been exposed to a heavy shower of rain, which damped her clothes; she remained standing on the grass, and got her feet wet; on the same day she felt her ancles swollen; this was followed by swelling of the phalangeal joints, and stiffness of other articulations. These symptoms had continued, and on several occasions there had been delirium. On August 17th she had slight hœmoptysis; and on that day she was brought to Guy's in a very distressed condition; she was unable to answer questions; her respiration was hurried; her heart very excitable; her cheeks were flushed; and a profuse perspiration covered the whole body. Bicarbonate and acetate of potash, with tincture of henbane, were given every four hours, a grain of

opium every night, and beef-tea, arrowroot, &c. She was a girl of florid complexion, with fair, delicate skin. When admitted her expression was that of suffering and anxiety; there was involuntary contraction of the facial muscles; the muscles were generally flabby; the extremities wasted; the joints were swollen and tender; the perspiration was very abundant and sour; the pulse 115, irritable, but compressible. There was very little costal movement, and the lungs were very imperfectly filled; there was slight dulness at the base of the lungs; and dark mucous expectoration; the action of the heart was regular; a systolic bruit was distinctly audible below the left nipple, and in the axilla; and deep inspiration produced pain in the region of the heart. There was slight dyspnœa. The tongue was covered with a thick brown fur; the bowels constipated; urine of sp. gr. 1018, deep red colour, not containing albumen or sugar, but with the microscope showing epithelial scales, and crystals of uric acid. The bowels were acted on by means of castor oil. On the 19th there was less distress and pain in the joints; the other symptoms as before. On the 20th she appeared easy in the morning, but in the evening excessive pain in the back and limbs came on, and the respiration became more hurried. On the 24th, one week after admission, the pain in the joints had entirely left her; the profuse perspiration had ceased, and she was able to sleep at night. The systolic bruit was almost inaudible; her pulse was regular and quiet, 75 per minute.

25th.—She stated that she felt quite well, and wished

to get up; the movements of the joints were so far restored that she was able to do fine needle-work; pulse 72, quiet and tolerably firm. She was allowed meat diet. Her convalescence was steady and good. Cod-liver oil and steel wine were given, and she left the hospital on September 8th. The systolic murmur still very slightly audible.

This was a very severe case of rheumatic fever, in which many of the joints were affected, the endocardium involved, and delirium occasionally present. Most persons would have been tempted to have given mercury freely; but this is an instance showing the subsidence of all the symptoms very quickly under the free use of salines and opium; on the eighth day after admission she was able to work with her needle, and we think, if mercury had been given, only injury would have resulted, the convalescence have been retarded, an anæmic state induced, and perhaps more speedy relapse would have followed.

Rheumatism.

Henry P., aged 18, residing in the Old Kent Road, was a young man of temperate habits, and good general health, but a year ago had had syphilis. On July 7th, without any assignable reason, he experienced great pain in the right ancle, followed by heat, redness, and swelling; the left ancle was soon affected, subsequently the knees and hips. In a few days the whole of the articulations of the upper extremities were in pain; the smaller joints also were swollen. There was profuse

perspiration; he felt languid and ill; had noises in the ears, and occasional vertigo.

On admission, July 18th, he complained of severe pain in the back; the whole of the joints of the upper and lower extremities were very painful and swollen; the hands very sensitive. The viscera of the chest healthy, but the second sound of the heart not quite so distinct as normal; the abdomen was supple; there was slight pain across the epigastric region; the tongue had a brown thick fur in its centre; the bowels were much confined; urine sp. gr. 1020, no albumen or sugar; pulse 75, full and firm.

A purge of colocynth, and saline medicine, at first in effervescence, were given; afterwards the bicarbonate and nitrate of potash.

The severe pain in the joints ceased in a few days; on August 11th the patient wished to sit up, and on the 15th left his bed. On the 20th, after exposure, he had a return of pain in the spine and other joints; saline medicine was again given, and he slowly convalesced; on the 27th he was free from pain, and steadily gained strength; slight pain came on in the soles of the feet, but this nearly left him before he quitted the hospital.

Acute Rheumatism.

Mrs. —., a young married lady, during lactation, took cold after exposure in damp, foggy weather, during December, 1858. After four or five days of slight pain in the joints, she experienced decided pain in the ancle, which became red and swollen, with

general febrile excitement; on the following day the knee was also swollen and painful; she was faint, and the pulse very compressible, from the effect of nursing. At the end of the first week she was completely fixed in bed, the joints generally affected; profuse perspiration; the pulse frequent and compressible.

Opium was given at night, potash salts were prescribed, and the bowels acted upon.

The first sound of the heart was slightly obscured, but there was no well marked bruit. On the eighth day after the symptoms of rheumatism had fairly set in, they began to subside, and the pain disappeared. At the end of the second week there was a slight return of pain in the joints, but it only continued for one day, and at the end of the third week she was able to walk round the room. The subsequent convalescence was in every respect favourable.

This was a severe case of acute rheumatism, and although there was no marked affection of the heart, the systolic bruit was muffled, but completely regained its normal character under the treatment adopted. I have no doubt that if mercurials had been given, so as to affect the system, the symptoms could not have subsided more quickly, but, on the contrary, the convalescence would have been considerably retarded.

The successful treatment of rheumatism by salines is well known to the profession, and for many years I have watched its use in the wards of Guy's Hospital, especially in the practice of my friend and colleague, Dr. Barlow; but the avoidance of mercury in the treatment

of the severe forms of disease to which I have alluded, as acute disease of the brain, lungs, and abdomen, rheumatic carditis, &c., is an opinion which I have much hesitated thus strongly to submit to my readers, since it has been in opposition to earlier inculcations. The course of treatment recommended is not the result of a few isolated cases, but from the extended experience afforded by the practice of a large hospital, which has very forcibly shown that mercury may almost be abandoned in the treatment of many acute diseases.

In the diseases of children and aged persons especial care is necessary, lest by our remedies we diminish the powers of life, but feebly developed in the one, and already failing in the other, instead of sustaining the system under the ravages of disease. Right treatment consists in the careful adaptation of means to the circumstances and condition of each individual case.

CHAPTER IV.

ON THE BENEFICIAL USE OF MERCURY.

ALTHOUGH we have thus spoken against the improper use of mercurial preparations, we are far from intimating that it is not a valuable medicine when rightly used.

1. *It is of great value in retained secretions*, and especially in regard to those of the alimentary canal and the glands discharging themselves into it. Not only is the secretion of the liver increased, but also that from the kidneys, and probably from the pancreas, and the innumerable minute mucous glands of the intestine. The exceedingly interesting experiments of Dr. Handfield Jones, have shown that in lower animals there was no proof that the secretion in the bile ducts was increased by mercury; but opposed to this is the general experience of the profession, that the colouring matter of the bile is more freely discharged after mercurial action. The addition of mercurial preparations in small quantities to diuretic remedies also, appears powerfully to increase their action.

2. *In many instances a free dose of mercurial medicine*

constitutes the most efficient purgative. In the onset of many febrile diseases, in acute disease of the brain and lungs, it is exceedingly important to free the system from retained secretions, to stimulate excretory glands to a more active performance of their functions, and no more effective means of accomplishing this object can often be resorted to than a free action on the bowels by calomel, grey powder, or blue pill. In hepatic engorgement, whether arising from the immoderate use of alcoholic liquors or from other secondary causes, a free mercurial purge is often a source of much relief, removing the sense of exhaustion, of malaise, of apparent feebleness; the pulse becomes more free, the mental and physical energies more normal, and the patient is often amazed at the return to the feeling of health and strength after so great depression. It is this immediate effect from a very common cause of great discomfort, and often of a semi-melancholic condition that has led to the too general adoption of the Abernethian remedy of blue pill and black draught, subsequent injury being often forgotten in present relief. The free manner, however, in which mercurials are used as an ordinary purgative, and especially in the diseases of children, cannot be too strongly reprobated. Severe irritation of the mucous membrane may be set up; and in adults the habit of taking mercurial purgatives frequently produces troublesome constipation or persistent feeble digestion.

3. For a somewhat similar purpose we find *the great value of mercurials in those forms of dropsy where the*

liver and the portal system are engorged; thus in diseased heart, the current of blood being impeded, the lungs, the right side of the heart and all the vessels opening into the right cavities become over distended with blood; on this account we observe the face and lips to be congested, the brain acts imperfectly, being supplied with semi-arterialized blood; there are indications that the liver is over filled with blood, and its secretion insufficiently separated; the kidneys are equally congested, nitrogenous products very imperfectly carried off, but albumen sometimes escapes with the urine; the mucous membrane of the stomach and alimentary canal is so distended with blood, that food produces flatulence, and is imperfectly digested, and a trifling abrasion leads to profuse hæmorrhage. In this state the vessels of the peritoneum pour out serum into the serous sac, and dropsy is the result; the sub-cutaneous vessels also allow serous exosmosis, and we then have swelling of the extremities. A feeble, often irregular pulse is the concomitant, and we might in such a state dread to give a remedy such as mercury. But, watch its effects; the liver is stimulated and its secretion increased, the kidneys are similarly acted upon, every gland of the mucous membrane is equally excited and a freer discharge takes place from the bowels, the kidneys, and the liver; the portal system of vessels is emptied and the pressure of blood in the right cavities of the heart is removed. In this way the heart is freed from its load of blood and beats more freely, the gasping for breath ceases, and the balance of the circulation is

in some measure regained. The benefit following the use of mercury in some of these instances, in their earlier as well as in their more advanced stages, is most marked. Similar benefit arises, and for a similar reason in dropsy following chronic bronchitis, and in the earlier stages of hepatic dropsy; but in that from renal disease, as well as from organic change in the peritoneum itself, no good results follow its use. The good effect we have thus referred to, may be attained sometimes by one or two free doses of mercury, in others it is better effected by more minute quantities continued for a longer period.

4. *In small or occasional doses, where its more free or continued use would be detrimental in some of the classes to which we referred to its administration as being injurious.*

In the progress of many forms of chronic disease the secretions become obstructed, the bowels constipated, the tongue furred, the motions pale, the urine high coloured, and a few grains of grey powder, or of blue pill rightly guarded, may be given safely and well; thus in the progress of disease of serous or mucous membranes, in strumous or cancerous disease, in chronic tumors, atheromatous disease of vessels, many such instances arise.

5. *The use of mercury in syphilis* has been the cause of much animated discussion; and whilst almost all, I believe, now acknowledge that the varied forms of syphilis may be cured without mercury, there are con-

ditions both of primary and secondary disease, in which it must be regarded as the most effectual means of freeing the system from the effects of the poison. Few who have seen a puny infant, the subject of congenital syphilis, lose its blotches, its constant snuffling, and regain a plump appearance very rapidly, after a few grains of mercury have been given, will doubt that mercury does in a very remarkable manner modify and control the syphilitic poison. Primary and secondary syphilitic ulcerations, disease of the bone and periosteum, as well as lichen, lepra, iritis, rheumatism, the epilepsy following diseased cerebral membranes, and other sequelæ of the same poison, are often checked in a similar manner; but all may recover without mercury—the iodide of potassium is followed by effects almost as marked, and the prostration consequent on salivation is often succeeded by other less tractable relapses, or another form of this protean disease. Dr. Graves states in his 'Clinical Medicine,' that nothing is more certain than the fact, that in many, the abuse or even the use of mercury, renders the constitution disposed to ostitis on future occasions, when cold or damp act on the body, especially if fatigued by exercise, or exhausted by dissipation. This ostitis is consequently called mercurial, "it yields to mercury, but this treatment leaves him more subject to severe relapses, which cannot be cured by the same remedy." Where there is strumous disease, mercury must be used in syphilis with still greater precaution and care.

6. It has sometimes been found that the mucous

membrane of the stomach when exceedingly irritable may be soothed by the administration of pure calomel; and Annesley in the treatment of Indian disease, often used large doses (one scruple) to produce this effect. We have seen one grain doses of calomel apparently useful; but probably in some, if no medicine had been given, but the mind of the patient diverted from its own sensations, as good a result would have been recorded.

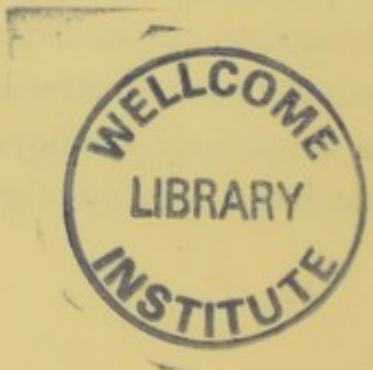
7. In the treatment of that terrible form of disease known as Asiatic cholera, calomel has been very frequently tried, and has had many advocates. I have seen it given in small and frequently repeated doses, and the patient recovered; but this may be said of every remedy, or no remedy at all. Out of 365 cases mentioned by Dr. Gull in his 'Cholera Report,' as treated by calomel in small and frequently repeated doses, 187 died, and 178 recovered; and from the cases quoted from Dr. Ayre, its strongest advocate, out of 725 unequivocal instances, 365 were fatal. Dr. Gull further states, that "under severe and opposite plans, the recoveries, even in severe cases, averaged from 45 to 55 per cent, according to the period of the epidemic; they should therefore exceed the highest of these numbers before they could be adduced in proof of the value of any particular mode of treatment. In general, no appreciable effects followed the administration of calomel, even after a large amount in small and frequently repeated doses had been administered. For the most part, it was quickly evacuated by vomiting or purging, or when retained for a longer time, was afterwards

passed from the bowels unchanged. Salivation but very rarely occurred, and then only in the milder cases. We conclude that calomel was inert when administered in collapse; that the cases of recovery following its employment at this period, were due to the natural course of the disease, as they did not surpass the ordinary average obtained when the treatment consisted in the use of cold water only."

8. The external application of the preparations of mercury may produce all the general effects which follow its internal use; and in some instances inunction is found to be a very speedy method of producing its action on the system, without the irritation of the mucous membrane, consequent on its ordinary internal use. It may in this way be occasionally used, where we could not recommend it as a remedy given by the mouth. The more active preparations are sometimes employed as escharotics in spongy granulations; but more frequently, in their milder forms, as stimulants in many instances of chronic ulceration, and in chronic cutaneous disease; occasionally they are directly applied to the pharynx and larynx by insufflation in syphilitic ulceration; but in numerous instances there can be no doubt of the value of these preparations as external remedies.

It will be seen by the preceding remarks, that while we have written strongly against the indiscriminate use of mercury, and even against its administration in many diseases for which it is frequently employed, we are very willing to admit that it is a remedy of great power

and value. Its injudicious use serves perhaps more than any other means to recruit the ranks of medical pretenders; it were well if all who use it would carefully consider whether, in each case, it is really required, and whether, in very many instances, it could not be altogether dispensed with; and whilst it may truly be said, the abuse is not an argument against its use, it is incumbent upon all who seek to alleviate disease not to add fresh opposing cause to the restoration of health, as we have shown mercury to be in many instances.



APPENDIX.

Mercurial Tremor—Paralysis—Phthisis—Pneumothorax.

James A., aged 32, was admitted into Guy's Hospital, May 30th, 1855, under the care of Dr. Gull. He had been employed as a water gilder for seventeen years, and had been intemperate in his habits; for five years there had been symptoms of mercurial poisoning; but after the first appearance of paralysis, as shown by tremor in his hands and legs, he continued at work for three months, when he was compelled to desist. The tremor then nearly disappeared, and he followed an out-door employment; occasionally, however, he returned to his work as a gilder, and in proportion to his exposure to the mercury, the symptoms of tremor, &c., returned.

In February, 1855, cough came on; and in April, five weeks before admission, he again became actively employed in gilding, and his health rapidly began to suffer. For five days he had given up work, and presented on admission the symptoms of mercurial poisoning, tremor and cachexia, and also the signs of a cavity in his left lung.

He convalesced favourably, and was about to leave the hospital, when he suddenly became very ill, and died very quickly on the 24th of June.

The left lung was collapsed, and the pleural cavity was full of air, a small vomica at the lower part of the lung had ruptured into the pleura, producing pneumothorax; a large vomica was found at the apex. The right lung was less diseased, but presented some tubercular deposit. There was ulceration at the lower part of the ileum and in the cæcum; and slight ulceration at the inferior vocal cord. No tubercle was found in other parts.

This case was one of ordinary phthisis, and the mercurial poisoning might be regarded as a mere coincidence; but in a man, who had for many years been exposed to the deleterious effects of the poison, in whom cachexia and tremor had been produced, it must be regarded as a predisposing cause of the disease, which ultimately proved fatal.

ON

DISEASES OF THE ALIMENTARY CANAL,

ŒSOPHAGUS, STOMACH, CÆCUM,

AND

INTESTINES.

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