

A compendium of lectures on the theory and practice of medicine / delivered by Professor Chapman ... Prepared ... from Dr. Chapman's manuscripts ... By N. D. Benedict.

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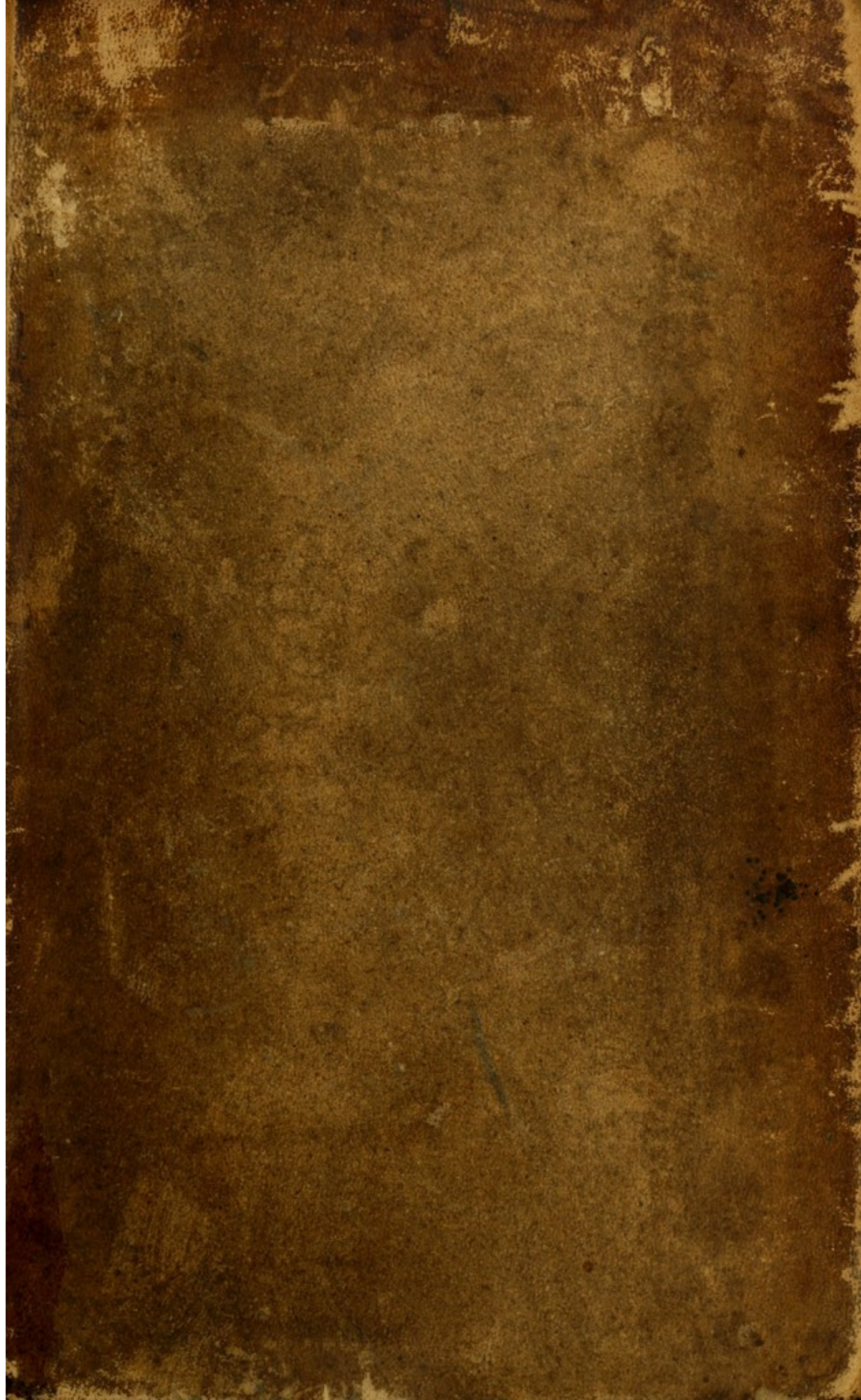
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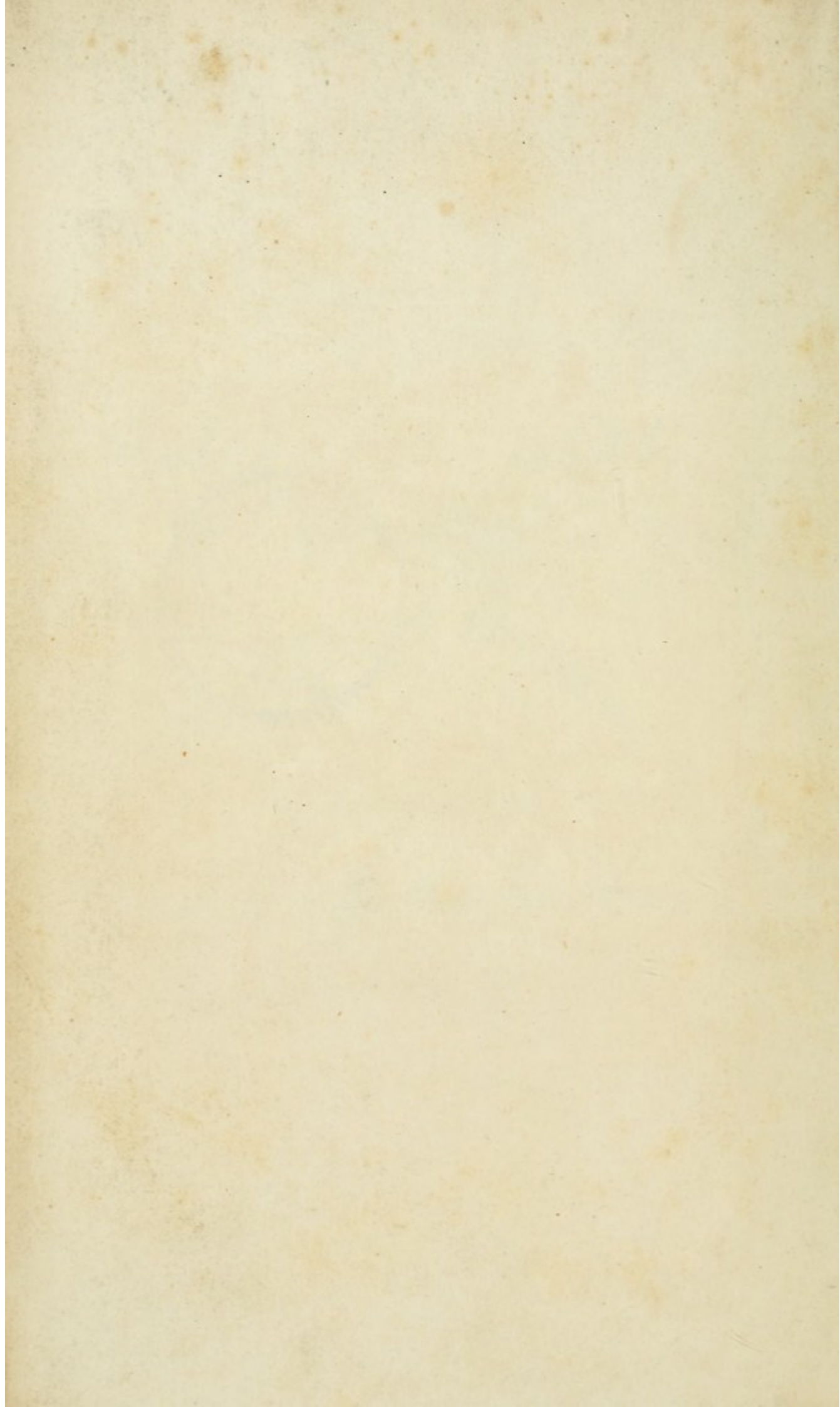
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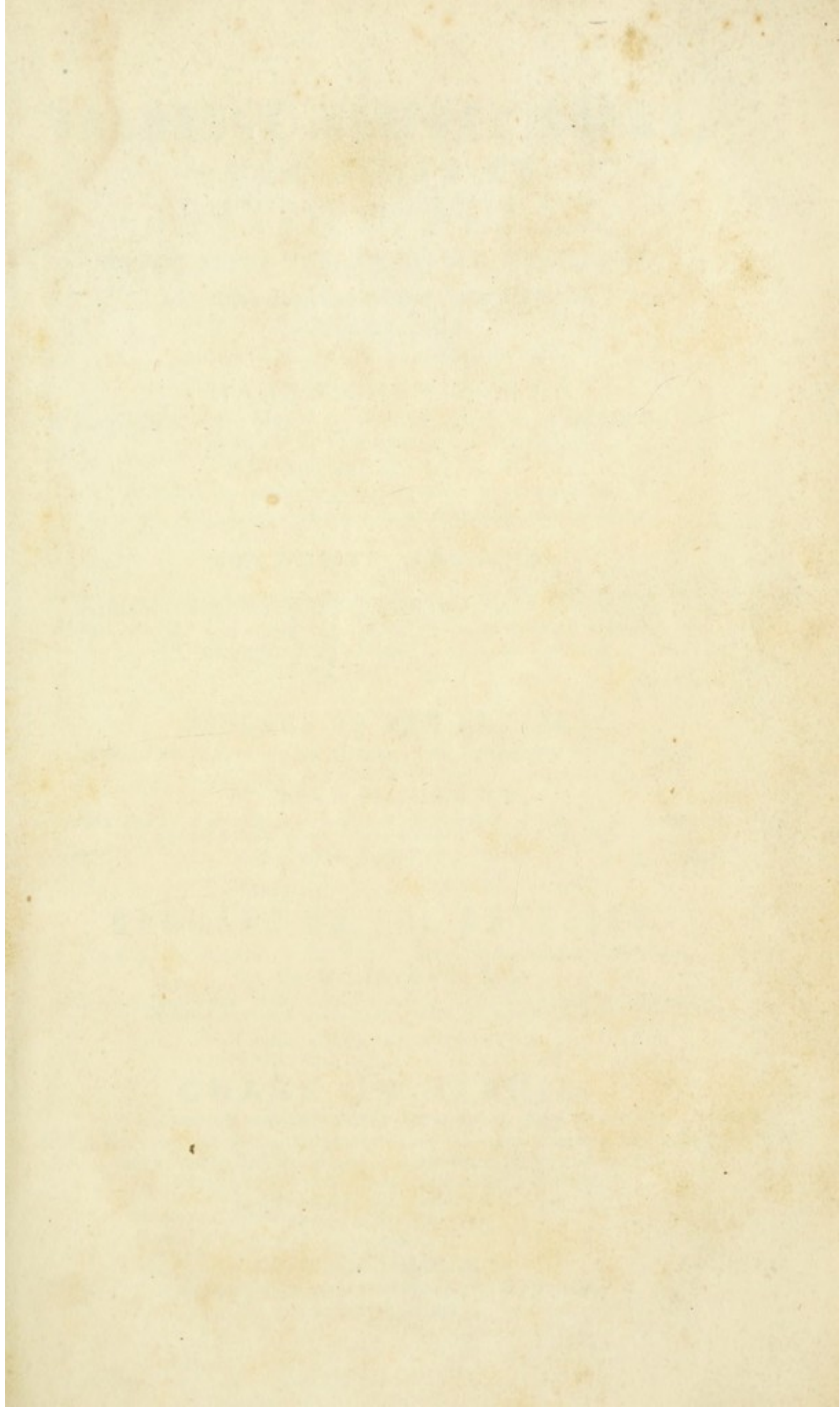
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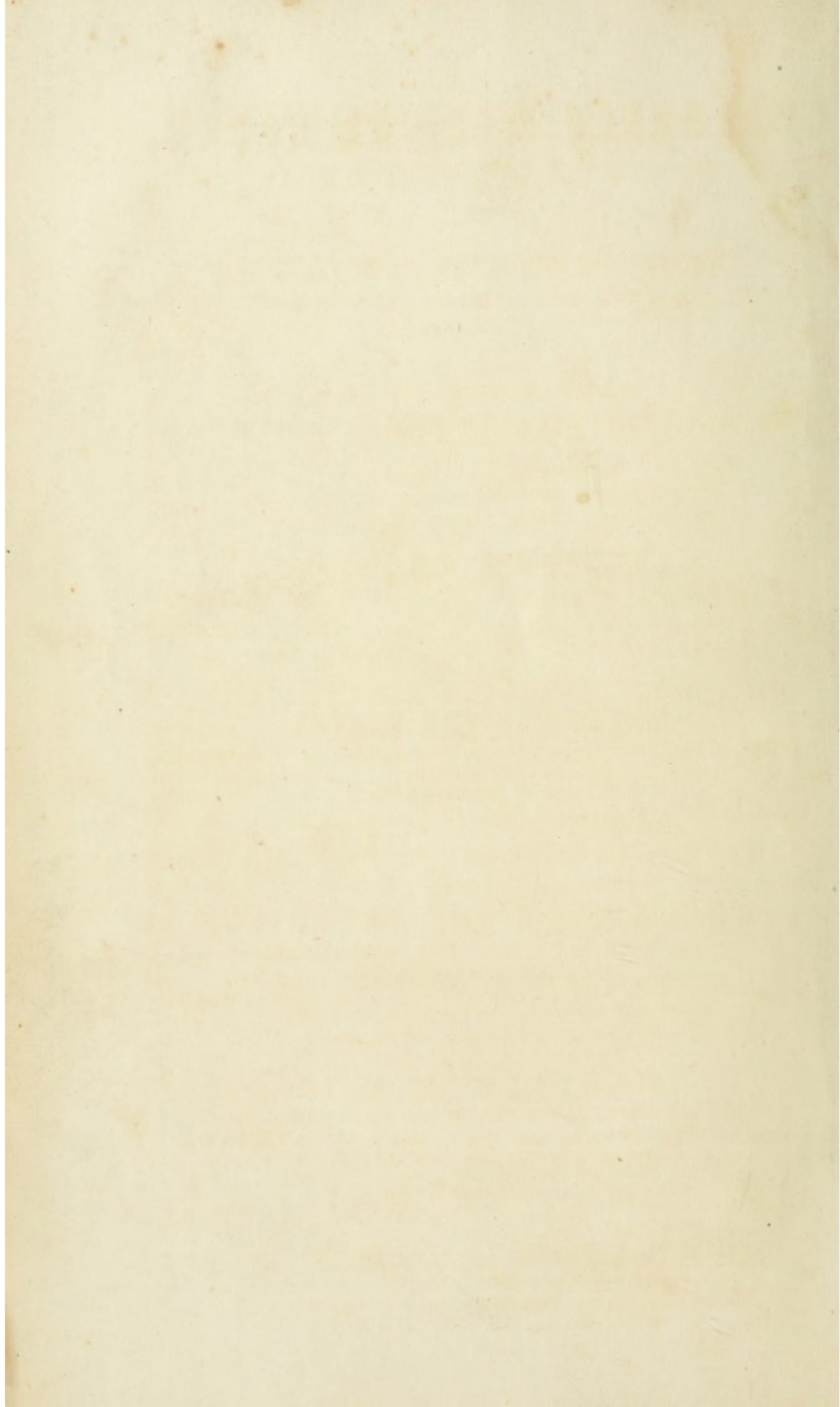
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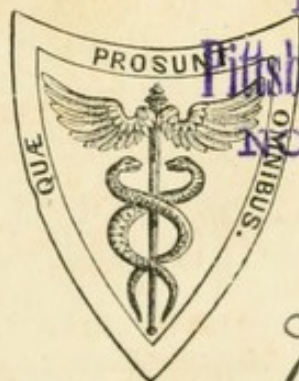
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BY N. D. BENEDICT, M.D.,

FELLOW OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA; PHYSICIAN TO THE
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P R E F A C E.

IN presenting this work to the public, the author expects it to stand chiefly upon the merits of the great man, in whose voluminous writings it is founded. Elevated on account of extraordinary talent and learning, at the youthful age of twenty-six, to the adjunct professorship of Obstetrics, in the University of Pennsylvania, he was, seven years afterwards, elected to the professorship of Materia Medica, and, in the thirty-sixth year of his age, was transferred to the Chair most congenial to his tastes and acquisitions—that of the Institutes and Practice of Physic, and Clinical Medicine.

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In making this Analysis, distinctness of division, perspicuity in expression, emphasis of General Principles and other important parts, as well as the closest accuracy, have been carefully studied.

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A
C O M P E N D I U M
OF
DR. CHAPMAN'S LECTURES.

CLASSIFICATION OF DISEASES.

DISEASES were first classified by Celsus, who associated those bearing to each other a general resemblance. A second classification was by Cælius Aurelianus, by whom they were divided into the acute and chronic. A third was founded on the locality of the disease, beginning with the head, and proceeding to the chest, &c. A fourth, adopted by Boerhaave, was founded on the supposed causes of diseases.

The plan of a Nosology, or arranging diseases into classes, orders, genera, &c., according to their symptoms, was suggested by Sydenham, and speedily acted on by Sauvages. Since have been elaborated the nosologies of Linnæus, Vogel, Sagur, Cullen, McBride, Darwin, Pinel, Young, and Good. These are all marked by great defects; though the best is that of Cullen, improved by the late Professor Hosack of New York.

Nosology was first attacked by Brown, who supposed all morbid states were either sthenic, or asthenic, when compared with the standard of health, which he arbitrarily fixed at forty degrees. Those, however, loudest in their condemnation of nosology, adopt its distinctions. An example is seen in Dr. Rush, who held the doctrine of the unity of diseases; and then

in the division of his subject calls that by a phrase, which had, before, been designated by a word.

Notwithstanding the features of a disease are modified much by circumstances, yet there are leading characteristics which still remain to isolate it. In order, however, to attain to a proper arrangement, our views require great improvement, since the arrangement ought to be based upon pathological conditions. Nosology has greatly declined.

Dr. Chapman assorts diseases, as they are presented in the different systems of the body. Yet, he confesses that this too has its defects, among which is, chiefly, that each system is composed of heterogeneous elements, each of which may be separately affected, and require a peculiar treatment. Yet, on the whole, he considers his plan the best; and it has been followed by many distinguished writers.

Limiting the term system to a part, or combination of parts, having a similarity of structure, or which concur in the same uses, the following may be stated :

1. The CIRCULATORY, consisting of the heart and blood-vessels.
2. The ALIMENTARY, of the stomach and bowels.
3. The SECRETORY, of the glandular apparatus.
4. The ABSORBENT, of the lacteals and lymphatics.
5. The RESPIRATORY, of the pulmonary organs and their immediate extensions.
6. The PERSPIRATORY, of the external covering of the body.
7. The SENSITIVE, of the brain, spinal marrow, nerves, and organs of sense.
8. The MUSCULAR, of the muscles, and their appendages.
9. The OSSEOUS, of the bones and their connexions.
10. The GENERATIVE and URINARY, of the organs subservient to these processes in both sexes.

A part of what is embraced in this *Physiological Division*, will be resigned to the departments of surgery and midwifery. As much regard as possible will be paid to the distinctions arising from the peculiar tissue in which the disease may be located. The best classification would be that founded upon the tissues of the body, but it is impracticable from the usual engagement of several tissues in the same affection.

F E V E R S.

It has been estimated that one-half, and by Sydenham that one-third of mankind die from fever.

WHAT IS FEVER? Cullen, who on this point has been chiefly followed, defines it to consist in preternatural heat, and frequency of pulse, after a shivering, accompanied with a disturbance in many of the functions, and diminution of strength, especially in the limbs. Of the constituents of this definition the first three, viz., preternatural heat, and frequency of pulse, and antecedent shivering, are not uniform attributes of fever. The last two, disturbance of the functions, and debility, belong equally to other affections. So exceedingly diversified are the manifestations of fever, that though it may be easily recognised, yet an adequate idea of it can only be conveyed by a description, such as shall embrace the entire assemblage of appearances from its commencement to its final termination, and in all the varieties of which it is susceptible. This will be the proper substitute for a definition, and will be executed in the special consideration of fevers. At present will be given a mere summary.

SYMPTOMS OF INFLAMMATORY FEVERS.

PREMONITORY.—*Nearly always*, languor, listlessness, disinclination to motion, and some feebleness. Concomitantly, or soon after, anorexia, nausea, eructations, or other disturbance of the stomach,—irregularity of bowels, which are usually costive, with uneasiness in them, furred tongue,—pains in the back and extremities, with slight tremulousness,—skin harsh and unperspirable, pale and shrivelled,—countenance sunken, or otherwise changed,—headache, or giddiness,—the mind perhaps dull and confused, and the temper petulant and fretful.

OF THE CHILLY STAGE.—The case is gradually evolved by an increase of the foregoing symptoms, and especially by the sense of chilliness. Cold is felt in the back, as if a stream of water were trickling down it, quickly followed by shiverings, or even convulsive rigors. Respiration short and hurried,—vomiting,—mouth dry and clammy,—thirst considerable,—circulation quick and feeble,—and the muscular pains exasperated. This stage continuing an indefinite period, is succeeded by the

STAGE OF REACTION.—Pulse vigorous, tense, and accelerated,—extreme vessels full,—temperature restored,—respiration somewhat freer,—countenance florid and tumid,—severe headache,—and great depravation of the secretions.

Thence, the progress and eventuation are determined by the type.

Such are the leading symptoms of inflammatory fevers, which are, however, greatly diversified in degree of violence and complication.

SYMPTOMS OF FEVERS OF A TYPHOID KIND.

In such fevers from the primary action of the cerebral and nervous systems, or from improper management, reaction is withheld, and hence appears the aspect of extreme prostration, and of slow and imperfect development.

THE ACCESSION.—This is very sudden. There is felt a sense of coldness, or a decided chill. Skin pallid, or mottled, and collapsed, often dripping with a dewy perspiration,—pulse small and feeble, or full, irregular, and easily compressible,—struggling of the heart, respiration slow and heaving,—muscular power exceedingly impaired,—and intellectual powers dull or confused.

Should the system emerge from this state, then is developed the stage of

PARTIAL REACTION.—This state marked by hot head and cold feet, and great cerebral and nervous distress.

IRRITATIVE FEVER.

In this, the original impression is made on the nervous system, and to it subsequently is the impression chiefly confined. The case having begun with feelings of intense wretchedness, which may last many days, a fever ensues of a diminutive kind, exceedingly lingering, marked by extreme debility, and presenting the appearance of nervous irritation.

The congestive and irritative forms of fever, like the inflammatory, occur in the intermittent, remittent, and continued types.

CAUSES OF FEVER.

PREDISPOSING.—Excessive heat or cold; sudden variation of temperature; humidity, or dryness of atmosphere; extreme rarity or density of air; calms or tempests; the steady prevalence of certain winds; and *marsh miasmata* or impregnations received by the air from marshes. Emanations from animal putrefaction, and mineral fumes are excluded by Dr. Chapman, from this category. Crowding people in ill-ventilated apartments, which may act either through contagion arising from disordered secretion, or as Dr. Chapman thinks, from excess of oxygen, or carbonic acid, or both. At all events, to this vitiation belongs properly the term Malaria, and not Miasma, which relates only to vegetable emanations. Contagion, as in eruptive fevers, acting either by contact, or through the atmosphere. Corrupted or penurious food. Mental emotions, sometimes of an exalting though more usually of a depressing kind. An inexplicable epidemic influence.

EXCITING.—In a number of individuals exposed equally to the predisposing causes, we see a great difference in the susceptibility to impression. The agencies promotive of this susceptibility are called *exciting* causes. These are: 1. A peculiar organization. 2. The irritation of one or more organs, which according to the ancient maxim, *ubi irritatio, ibi affluxus*, solicits and directs the aggression of disease. This action is well shown

* from diminution of oxygen & excess of carbonic acid.

in revulsives, when used to invite disease from one part to another. But the doctrine here advanced is very contrary to that which was promulged by Brown, supported by Rush, and which, although it has lost caste with the profession, is still employed in the common parlance of both physicians and the vulgar. The other theory ascribes the increased susceptibility to debility. It maintains that disease will fall upon a *weak* organ. But it is contradicted by the fact, that it is the robust who are usually the subjects of the attack; that in seasons of widespread danger, the protective measures employed are of a lowering character, as they are also when used as precautionary to the fever which it is apprehended will follow a wound.

Under this second head, then, all irritating and perturbing agencies are included.—Indiscretions in diet, or clothing; exposures to heat or cold, violent exercise, mental emotions, constipation, acrid secretions retained in the body, &c.

DIAGNOSIS.—It will be here only stated that the diagnosis is easily made. The farther consideration is pretermitted until the fevers are taken up in detail.

PROGNOSIS.

The discussion of this will also be brief in this place. The more a febrile attack is diffused over the system, the less dangerous it is. The most tractable of fevers, are intermittents; the least so, are the continued, and especially those of a congestive or typhoid character. By some indeed it is maintained that the latter class cannot be cured by art, but only mitigated. Proof is drawn from the eruptive fevers. But it is unfair to draw such a general inference from fevers so peculiar in nature. This theory is directly disproved by facts. Still there is a disposition in fevers to a spontaneous crisis on certain days, and the difficulty of arresting them on intermediate days is great.

CRITICAL DAYS, or those in which a fever always has a tendency either to abate or become exacerbated, were first ob-

Penckze originated this opinion.

served by Hippocrates, and since have been fully shown to exist. According to Hippocrates, the critical days are the 3d, 5th, 7th, 9th, 11th, 14th, 17th, and 20th, or as some commentators declare, the 21st; and since have been added the 27th, 35th, and 42d days. The vigour of our practice is rather unfavourable to the clear manifestation of these crises.

The occurrence of critical days has been explained on the supposition that continued fevers are really disguised intermittents, which, commencing as quotidian, or tertian, become quartan on the 11th day. Crises are denoted by hæmorrhages, especially from the nostrils, and hæmorrhoidal vessels, improved and augmented secretion, and subsidence of the febrile movement; and these changes act, like our artificial evacuations, rather as causes than effects merely of an ameliorated condition. Fevers, however, sometimes subside gradually.

AUTOPSIIC APPEARANCES.

The phenomena exhibited are mainly seated in the alimentary canal, and collatitious viscera, brain, and spinal marrow. Lesions also probably exist in the nerves, particularly the ganglionic centres, though seldom demonstrable. The upper portion of the alimentary canal, with the liver, pancreas, and spleen, are most apt to be implicated; and next, the brain and its dependencies. Phlogosis and congestion, with their varied results, constitute the morbid conditions presented.

PATHOLOGY.

The question now agitated is, whether fever is the consequence of some primary local irritation, followed by a series of morbid associations, to a greater or less extent,—or, is the original impulse of a general nature, giving a shock to the entire frame, and the topical irritation, or inflammation, secondary and dependent? This is only the revival of the old discussion ending partly by common consent, in the division of fever into symptomatic and idiopathic. *Dr. Chapman regards all fevers as sympathetic of a primordial local disturbance.* The

settlement of this subject he deems of much practical importance.

ILLUSTRATION AND PROOF OF THE PROPOSITION.

—In the phlegmasiæ,—in fever following injuries, and the reception of poison,—in fever produced by irritants, as worms,—and in the eruptive fevers, it is undisputed that the febrile action is merely sympathetic of the local disturbance. Tracing out the evidence, we may also be persuaded that the same holds true in its application to the so-called idiopathic fevers. These fevers are caused mainly by contagion, or other effluvia, as marsh exhalations, or by excesses of temperature, or sudden transitions of weather, or some general, or epidemic agency.

Now it is plain that such atmospheric impregnations are only admitted by being entangled in the saliva and swallowed. The truth of this is evinced by the *protection* afforded against such impregnations, and the poisonous fumes of certain metals, by taking food or oil into the stomach previously to exposure. These act either by sheathing the sentient surface, or by bringing on digestion, in which process the deleterious properties of the morbid agents are destroyed. The *early phenomena*, also, are decidedly gastric. Still, supposing the lungs to be the avenue of admission, the general proposition respecting a local origin of fever, is not invalidated; in that case, the lungs, instead of the stomach, would be the primary seat of morbid action.

Cold, also, by inducing torpor of the skin, drives in the blood and concentrates the sensibility upon internal parts, from the disturbance of which radiates disorder to every part of the economy. *Heat*, having first stimulated the cutaneous surface beyond measure, when withdrawn, leaves it in a torpid condition, which acts in the production of visceral disease, in the same manner as when proceeding from cold. This will suffice for an illustration of the *modus operandi* of the causes in the production of fever.

From the greater exposure and the more widely spread sympathies of the stomach, we might *a priori* apprehend its irritations to be a common source of fever. And, in fact, they are the source of nearly the whole of the idiopathic or essential

fevers of writers, and certainly of our autumnal fevers. For *proof*, look at the principal phenomena of their developement, which are eminently gastric. The same may be said of the origin of the eruptive fevers; and their early phenomena may be pointed to as evidence of their ventricular origin. From dissection, too, do we derive impressive proof of the same thing.

But though the primary impression be seated in the stomach, yet this may be superseded altogether by the prepotency of a sympathetic impression on some other viscus, as the liver, or, in typhoid or congestive fevers, the brain.

Dr. Chapman believes that no unnatural substance enters the blood in a healthy state, unless by injection. Yet he believes the blood in fevers does occasionally become much changed, and reacts on the solids, in the production of an increased degree of the typhoid or congestive tendency. But the deterioration of blood is effected through the mediation of a nervous system which is antecedently deranged. The blood in the commencement of fever, if examined, will be found little, or not at all altered.

It has been inculcated by some that the primary impression in fever is seated in the circulatory machinery. But the red discoloration of phlogosis, reported as such by Bouillaud, has been proved to be merely the infiltration of blood into the texture after death. Indeed, the phenomena of inflammation of these parts are very different from those of fever.

We have seen how fever is effected by a sympathy radiated from the part or parts on which the morbid impression has been made. *But what is the essential nature of fever?* Of this, or, in other words, of the intimate changes in the organization which constitute it, we may expect to know nothing. *We must be content with tracing its well-ascertained phenomena.*

The primary irritation (which is a disturbance of the normal functions of the nerves) gives rise to symptoms declaratory of sympathetic nervous and cerebral affection. These constitute the *premonitory* symptoms of fever. The internal irritation inviting an afflux of blood from the cutaneous surface, occasions the symptoms already described as those belonging to the

stage of the chill. The state of irritation and congestion in the viscera is followed by inflammation. In case the system, however, be overwhelmed by the force of the remote cause, reaction may be refused, and the turgid condition, characterized by the features formerly described, continues. Should inflammation be set up, there result the phenomena of fully developed inflammatory fever.

The conversion of congestion into inflammation appears to be effected thus. In order to overcome the impediment to the capillary circulation, the heart and great vessels are additionally excited. Should the obstruction be removed by the *vis a tergo*, all does well. But the obstruction remaining, inflammation results, which, from an extensive play of sympathies, induces the commotion of system described by the term, a perfect fever. That the febrile movement is primarily caused by the topical lesion, is proved by the fact that where such lesion does not exist, whatever may be the violence of the circulation, there is no fever. It is only the extension of irritation from the local lesion to the capillaries throughout the system, which can give rise to the various functional derangements, such as vitiated secretion, increased or diminished evolution of animal heat, and other derangements depending on a disordered condition of the capillaries.

Dr. Chapman does not, like Broussais, confine the primary seat of irritation to the upper portion of the alimentary canal, but maintains that any susceptible surface may become the seat of the first attack, or by metastasis, or otherwise, may assume, in the progress of the case, the most prominent position.

That the stomach suffers in every case of continued fever, is contradicted by the observations of Andral, Louis, and others. Broussais's idea, that every impression is transmitted to the brain, and thence reflected to the stomach, is gratuitous.

Louis located the origin of fever in the glands of Peyer and Brunner; Clutterbuck in the brain; others have located it in the spinal marrow, the liver, the skin, blood-vessels, or some other part.

Dr. Chapman regards fever as being the product not only of

inflammation, but also of irritation simply, or of congestion. If fever depend wholly on inflammation, it ought to vary in intensity with the intensity of the inflammation, which is by no means the fact, as is shown in the case of corrosive poisons.

Genuine fever is an affection of the whole economy, though rarely affecting two parts in equal proportion.

The only true test of theory is practical experience. Do the theory of fevers as just advanced, and the best practice in their management, correspond? They will be shown to do so entirely. This will prove confirmatory of the theory; and even should the theory be really false, it will entitle it to regard, since the great end of a correct theory would still be fully attained, namely, clear indications to good practice.

Being called to a case, which we are convinced depends on some gastric irritation, whether arising from miasma, contagion, accumulation of acrid bile, or some of the other causes we have previously detailed, is not the first suggestion of reason to remove the irritating agent by an emetic or purgative? And is it not well known that an emetic or purgative, given in the early stage of miasmatic fevers, typhus, and especially the exanthemata, sometimes completely arrests their progress? which it must do by removing the offending matter, or by breaking the links of the forming chain of association, and in either case coinciding with the theory.

But as in the phlegmasiæ, which if early treated can be cured by topical means, but which having involved the system in a febrile movement, must be treated by general measures, so in the fevers called idiopathic; since in an advanced stage the morbid action throughout the organization, has become nearly independent of its source.

Lest these views of pathology should be thought to have been taken from Broussais, it may be stated that they were announced by Dr. Chapman, long anterior to any of Broussais's writings.

TREATMENT.

1. Ascertain whether the fever be intermittent, remittent, or continued;—whether it be irritative, congestive, or inflammatory,—simple, or complicated,—and to what stage it has advanced.

2. Inquire the age, previous health, constitutional vigour, habits of the patient, and his capacity to bear the operation of remedies. The sex is also to be regarded.

3. Consider the nature of the prevailing epidemic, and calculate the modifications it will be likely to impart to the fever. This modifying influence of epidemics is often of very great importance.

The fever being *Inflammatory*, the chief indication is, commonly, to *reduce the excess of reaction*.

For this purpose, we resort to the following remedies.

Venesection, then cups or leeches to the local affection. Emetics, purges, cold applications to the surface, antimonials, and other febrifugic articles. Should, however, the febrile action, in a mitigated state, persist, as it does sometimes, we must resort to blisters, or other revellents, to mercury as an alterative, and sometimes to a more powerful mercurial impression.

The case being congestive, we must determine whether this condition be active or passive. In the former instance its management should be nearly the same with that of inflammatory fever. But the vital powers being evidently depressed, we must at once invigorate them by internal stimuli, frictions, sinapisms, and other exciting applications externally. Adequate reaction having been attained, these measures may be relinquished for the evacuant means already mentioned, though very cautiously, lest by the supervention of exhaustion, the system relapse into prostration.

FEVERS OF IRRITATION are to be treated by gentle evacuations from the alimentary canal, and small local bleedings; active measures being avoided.

REMITTENTS AND INTERMITTENTS are to be treated during their periods of exacerbation on the principles of more continued fever; but during the remissions, and especially the intermissions, a class of articles, such as Peruvian bark, are to be used for the prevention of the paroxysm.

The diet and regimen should be accommodated to the state of the system.

Though the so-called idiopathic, or essential fevers as more recently entitled, differ not in principle from the phlegmasiæ, yet in conformity with custom, Dr. Chapman deems it advisable to treat of them separately. They have been divided into *synocha*, or purely inflammatory,—*synochus*, of the same condition, though of less degree in the commencement, with a tendency to degeneration as it advances,—and *typhus*, when this low state of the vital powers prevail from the inception to the end.

FEBRIS INTERMITTENS, OR INTERMITTENT FEVER.

THIS fever consists of a succession of paroxysms, between each of which there is a distinct intermission, or subsidence of the febrile state, called *apyrexia*. The period from the beginning of one paroxysm to the beginning of another, is called the *interval*; and that from the end of one to the beginning of another, the *intermission*. The paroxysm recurring daily, the intermittent is entitled *quotidian*; every other day, *tertian*; and when the attack reverts only once in three days, it is called *quartan*. The attacks are said to recur sometimes much more seldom, *e. g.*, once a year. Dr. Chapman is convinced that the disease having ceased, has a tendency to reappear on the 8th, 15th, and 22d days of its cessation, as well as semi-annually, or annually. The types are sometimes complicated. There may be, for instance, the double tertian, with two paroxysms every other day; or with a paroxysm every day, the alternate paroxysms corresponding. These complications are rare. Of all the types, the tertian is most frequent, and the quotidian next. The quartan most frequently arises from neglect or ill management of the other varieties. Commonly the quotidian occurs in the morning, the tertian at noon, and the quartan in the evening.

Each paroxysm is divided into the *cold*, *hot*, and *sweating* stages.

SYMPTOMS OF THE INFLAMMATORY FORM.

COLD STAGE.—Languor, chilliness, nausea, pallor; soon after, shiverings, or even violent rigors, with increased pain in the

head, loins, and extremities. Sometimes vomiting, with urgent thirst, and frequently copious discharges of pellucid urine.

The mind also is irritable and childish. When the natural powers are feeble, or the force of the attack is overwhelming, the blood determined upon the internal organs, remains.

The cold stage having continued from *half an hour to an hour*, or sometimes longer, reaction succeeds, inducing the

HOT STAGE.—Hot surface, flushed face, violent headache, anxiety, stomach generally disordered, bowels unmoved, urine red. Pulse slowly becomes voluminous and vehement. This state continuing from *three to twelve hours*, the

SWEATING STAGE supervenes with great relief. The functions are restored to a state comparatively healthy. The urine, in the former stage clear and red, is now a little turbid, and deposits a whitish sediment; unless a crisis is about to take place, when the sediment is lateritious, or brick-dust-like.

DURATION.—Twelve hours are given as the ordinary duration of a tertian, though it may extend to eighteen. Each of the stages has sometimes been absent. Sweating has been substituted by discharge from the kidneys.

All the stages of a tertian are more severe than those of a quotidian. The quartan is in severity like the tertian, but is distinguished for slightness of perspiration.

The *case* has sometimes been restricted to one part of the system,—the limbs, for instance. Intermittents are sometimes masked by other diseases, which fact it is of importance to detect.

SYMPTOMS OF THE CONGESTIVE FORM.

Coming on with debility, the chill is either violent for a short time, or is very slight, or is alternated with feverish flushes, or very speedily heavy congestion supervenes in one or more viscera. Such an attack is rarely followed spontaneously by a normal hot or febrile stage. Continuing from six to eighteen

hours, the coldness is succeeded by clammy or dewy perspiration. The intermission is imperfect, and the succeeding paroxysm appears at an earlier hour. The pulse is nearly extinct, or low, hobbling, full and compressible,—the tongue moist and milky,—skin cold and damp, with, sometimes, a very unequal temperature. The engorgement of the brain and lungs occasionally amounts to apoplexy.

Cases occur in which there is little consciousness of danger and little apparent suffering, and in which the patient may continue to walk about the house, that are prone to terminate suddenly in a swoon. Reaction, however, does sometimes take place, in force sufficient to accomplish a recovery.

In other instances the force of the disease seems to be expended on the *primæ viæ*. Here there is great gastric disorder, jactitation, a moist tongue, with a disposition to syncope. At times, without any chill, fever, or prominent symptom, the patient is seized with meteorism, copious discharges from the bowels, sometimes emesis of a thin turbid fluid, and occasionally cramps of the muscles. Coming on in the same way, but without disturbance of the alimentary canal, there may take place an excessive and debilitating cold sweat.

In all these cases, reaction is rare; but taking place, if moderate, it produces a low congestive fever. If it be forcible, the fever is of a higher grade, and there is a peculiar determination to the brain.

APYREXIA.—During the apyrexia the pulse is not right, and there is disorder of the alimentary canal. Indeed, all the secretions and excretions are vitiated. Mind and body are both deficient in tone. The apyrexia is marked also by sallowness of complexion, uncomfortable feelings in the hypochondria, or head, with an increased sensibility to cold. In the graver varieties the apyrexial disorders are still greater, and the tendency of one paroxysm to encroach on another, leads to the formation of remittent, or of low continued fever.

CAUSES.

REMOTE.—*Marsh Miasmata.* Dr. Chapman thinks he has elsewhere (in his treatise on Epidemics), shown that these miasmata proceed from soils (particularly the argillaceous), and not from the decomposition of organic matter. They are commonly ascribed to vegetable decomposition.

EXCITING causes, and not, as has been supposed, predisposing causes also, are extreme heat of the atmosphere, indiscretions in diet, accumulations of bile, &c. Confounding intermittent with hectic, some of the late writers attribute it to a variety of local irritations. It occurs at times as an epidemic; and so occurring, is apt to be more malignant, or mixed and ambiguous in character, requiring, therefore, a close diagnosis. No age is exempt.

DIAGNOSIS.

The intermission is the most distinctive trait. The time of year, exposure of the individual to miasma, and the symptoms of a developed attack will assist in the diagnosis. In pathology it most resembles *remittent*, but in external physiognomy, *hectic* fever. Intermittent and hectic thus differ:

1st. The paroxysms of hectic want that agony in the spine and limbs, so characteristic of intermittent.

2dly. The paroxysms of hectic are seldom uniform for any number of days in succession, and after a short time, may come on at any hour of the day or night. Two paroxysms occur mostly in the twenty-four hours.

3dly. The paroxysm of hectic is often destitute of the chilly, and sometimes of the other stages.

4thly. The sweating stage of hectic does not always afford relief; on the contrary, chills and flushes may come and go at the same time.

5thly. The flush of the cheek in the hot stage of hectic, is circumscribed and peculiar. There is no headache; but the joints

of the lower extremities, apt after a time to be swollen, become in the hot stage extremely painful.

6thly. The pulse in hectic does not subside with the paroxysm, and in every respect is the apyrexia less complete.

7thly. The tongue in hectic is clean, florid and polished; in intermittents, is covered with a whitish or yellowish fur.

8thly. The alimentary canal is healthy in hectic, but the reverse in intermittent.

9thly. The urine in hectic is usually turbid during the paroxysm, and clear in the intermission, but reversely in intermittent.

10thly. The mind in hectic is cheerful, while it is the opposite in intermittent.

PROGNOSIS.

Tertian is the most manageable type, the quotidian being apt to degenerate into remittent or continued fever. Favourable signs, are a complete chill, which foretells an efficient reaction; the retardation of the paroxysm; cleaning of the tongue; bilious, or dark, tarry and offensive stools; lateritious sediment in the urine; and scabby eruptions about the mouth. The unfavourable signs, are the premature appearance of the paroxysms, and complication with other disease. The case will be more intractable also in proportion to its duration, which results as well from the force of habit, as from the disorders of the chylopoietic and other viscera. A violent paroxysm, when simple, is not the most dangerous, but frequently proves the final attack.

The disease is dangerous to the infirm. Children are easily cured. The intermittent may terminate by a conversion into remittent or continued fever, or it may run into a chronic state, and by long protraction, derange the organs. In this latter way it lays the foundation of other diseases—as certain affections of the heart or lungs, or inflammation, or congestion of the abdominal viscera, with jaundice, and especially dropsy.

The nervous system may also become deranged, and particularly with neuralgia. This last, supposed by some to be a

late disease, was formerly designated by different terms, such as rheumatalgia, lumbago, gastralgia, &c.

Death occurring suddenly during the cold stage of a paroxysm, it is usually from engorgement of the viscera of the great cavities; occurring during the hot stage, it is from convulsions arising from excitement of the brain, or spinal marrow. The sweating stage is scarcely ever fatal, except in malignant and congestive cases.

AUTOPSIIC APPEARANCES.

Death happening in acute cases in the cold stage, the chief, if not only appearance, is that of engorgement in one or more viscera. Death happening in the hot stage of an inflammatory attack, or after a series of paroxysms, phlogosis is displayed in the brain, its meninges, or those of the spinal marrow, in the pulmonary apparatus, or in the abdominal viscera. Congestive cases, death occurring at any stage, display immense engorgements and traces of weak inflammation. In chronic cases are revealed all kinds of organic depravation of the abdominal viscera, with frequent hydropic effusion.

PATHOLOGY.

Many attempts have been made to account for the periodical nature of intermittents, but they have all, so far, been unsatisfactory. It has been alleged, in solution of the difficulty, that the paroxysm ceases in consequence of the excitability of the system being exhausted, and when this is recruited, the paroxysm is renewed. But among other objections, it may be asked:—Why, then, are not all diseases periodical?

Another question is, What is the nature of the action? It is commonly asserted to be that of irritation, congestion, or inflammation. That these latter states should come and go so rapidly, may seem strange; yet *post mortem* examination reveals such phenomena, and the sudden accession and departure of inflammation in rheumatism and in gout, furnish a confirmatory analogy.

Again, What is the seat of this action? It is generally alleged to be seated in the stomach and intestines. Chronic cases are undoubtedly kept up by disease in other viscera. But in view of the great similarity to remittent and continued autumnal fevers, in causes, symptoms, and treatment, and the convertibility of intermitten into them, Dr. Chapman regards the action as essentially gastro-enteric, and the other viscera as affected sympathetically.

In recent and in mild cases, there is probably irritation only, with temporary congestion; while in confirmed ones there exists inflammation with its organic derangements.

In congestive and malignant cases, either from a primary want of constitutional vigour, or from the overwhelming action of the remote cause upon the brain and nervous system, the blood recedes from the skin to the deeply-seated organs, producing the heaviest engorgements, and this without the power of due reaction.

TREATMENT OF THE PAROXYSM.

INFLAMMATORY FORM.

COLD STAGE.—To overcome the *chill*, we place the patient in bed, cover him well, make hot applications to the lower extremities, and administer warm beverages. The mischief, however, taking place principally in the cold stage, should it be protracted, or the prostration be considerable, we resort to more efficient measures. For this purpose have been used, ether, carbonate of ammonia, camphor, &c. But the best is opium, or its preparations. The application of the tourniquet to an upper and lower extremity, is not deserving of much confidence. More may be expected from friction along the spine, or a sinapism to the epigastrium.

Venesection, useful in many cases of heavy engorgement, is unnecessary in ordinary cases. It is a practice introduced and recommended by Macintosh, but is adapted only to some cases, and is pernicious in others.

The substitution of cold for hot applications, has sometimes succeeded, by reviving, probably, cerebral and nervous energy.

HOT STAGE.—The indication here is, to promote sweating.

Emetics.—These may be premised when the stomach is irritated by bile or other matter.

Diaphoretics.—Acetate of ammonia, or sweet spirits of nitre, with laudanum; or, better, especially where there is much gastric disorder, the effervescing draught, or neutral mixture. But with such a view, the following is incomparable.* Opium may be used very advantageously in patients who are not plethoric.

Intense fever arising, as it sometimes does, with strong and dangerous local determination, it becomes us to use the lancet, local bleeding, purging, and other auxiliary measures. When the constitution is vigorous, and the fever well established, enemata of cold water may be advantageously employed.

SWEATING STAGE.—Here, nothing more is needed than to wipe the patient dry, and give him dry clothes, to check the discharge, when excessive.

CONGESTIVE FORM.

Here the system may pertinaciously refuse to react, while the most important organs suffer from venous congestion. In consequence of such congestion of the brain, may be induced apoplexy, or coma.

Venesection, which may seem to be indicated, will perhaps be inconsistent with the exhaustion of the vital functions.

Topical Bleeding, must therefore be substituted.

Emetics.—Especially of salt and mustard, which do not leave behind them protracted nausea and gastric debility.

Sinapisms to the stomach, neck, and extremities.

Opiates, eminently useful in the chill of common intermittents, are here both safe and efficacious. *Indeed, in most*

* R.—Acac. Gum.;
Potass. carb., aa. ʒj.;
Ol. menth., gtts. vi.;
Tinct. opii, gtts. xxx.;
Aq. font. fʒiv.

A tablespoonful every half hour, to be followed with a small portion of lemonade.

disturbances of the brain connected with miasmatic fevers of any type and any stage, opiates are far more serviceable than is generally supposed.

Cases occur, also, where there is dangerous collapse, without extreme concentrations of blood. These cases are to be managed by external warmth, sinapisms, cordial stimulants, carbonate of ammonia, camphor, and opiates. *Quinine in large doses.*

Examples, moreover, of the disease are met with, where the whole force seems to be expended on the alimentary canal, promotive of incessant puking and purging. Here, use *opiate enemata and external irritants.*

The sweating being excessive, the most effectual treatment will be a sinapism, and next a vesicatory to the epigastrium, with dry frictions, and a lotion to the surface of strong solution of alum in brandy, or the *hot air-bath.*

As the system emerges from these states of prostration, fever may ensue, which is to be treated according to its character.

TREATMENT OF THE APYREXIA.

INFLAMMATORY FORM.

Diversified as are anti-intermittent medicines in other respects, they all concur in deriving their curative power in this disease, from their adaptedness to subvert the disposition to a renewal of that gastric irritation, which usually constitutes its inceptive movement.

Before the commencement of tonic remedies, the system should be prepared for their use. In consequence of a neglect of this preparation, the difficulty of cure is enhanced, the intermittent is in danger of being converted into a remittent or continued fever, relapses are common, with serious organic derangements. These *preliminary measures are* EMETIC and CATHARTIC EVACUATIONS. The former seem, by breaking up trains of morbid association, to possess in themselves an anti-periodic power. These measures should be avoided, however, in case of inflammation.

Venesection.—Should the condition be inflammatory or febrile.

Topical Bleeding at the epigastrium, should the stomach show symptoms of phlogosis, or whenever tonics are not well borne. These topical means are of themselves enough, sometimes, to effect a cure. Phlogosis being manifested, evacuants of the alimentary canal should be anticipated by bloodletting.

Cinchona.—The preparatory means having been taken, the most useful of all means is cinchona, or its preparations. With the Peruvian bark, it is very advantageous to combine the administration of certain other articles—as cloves, tartrate of potash, muriate of ammonia, or carbonate of potash or soda, in the proportion of a drachm to the ounce.

R.—Pulv. cort. Peruv. ℥ss.

Pulv Rad. serpent. ℥j.

Sod. carb., vel potass. carb. ℥ij ^{or ℥i}.

Div. in pulv. iv. The whole to be taken in the course of the day.

R.—Pulv. cinchon. ℥j.

Confect. opii ℥j.

Succ. limon. ℥ss., *vel*

Acid. sulph. aromat. ℥j.

× Vin. Lusitan. rub. ℥viiij. × *Port wine*

Given in the dose of a wineglassful, three times a day.

Sulphate of Quinine.—Recommended as a substitute for the bark, from its being more tolerable to the stomach. Its cures, however, Dr. Chapman thinks, though rapid, are not the most radical. Bad effects follow its exorbitant use. It is best given in the dose of a grain every hour, commencing early in the morning, fasting, and ending at the time of the expected paroxysm. Most efficacious is it in solution, combined with the sweet spirits of nitre, or opium. When necessary, from phlogosis of the stomach, or other cause, it may be applied endermically. Five or six grains of the sulphate applied once in twenty-four hours, are alleged to be sufficient. It should be mixed with cerate. The acetate is less irritating. Quinine and the bark failing, *Equal parts of Quinine & piperine may be used in Inter-
-mits. One grain of each*

Arsenious Acid, or Fowler's solution, may be tried. *be given*

Sulphate of Copper, excellent in inveterate cases, especially of quartan type. *Chose*

Hydrocyanate of Quinine in doses of two grains, is very highly recommended for the cure of fever ague during the apyrexia.

Dr. Chapman regards the last two articles as superior to quinine in chronic cases, and also as respects completeness and permanency of cure.

A vast number of other remedies have been recommended, stimulant, tonic, or astringent.

Indeed, whatever powerfully affects the physical or mental constitution, has a tendency to destroy the intermittent.

CONGESTIVE FORM.

The Bark, or Quinine, is to be largely given in conjunction with tonics, or even diffusible stimulants.

The tonics may, in these pernicious intermittents, be employed in the *paroxysm*, according to circumstances. The indications for their use are the same with those belonging to the same conditions of remittent and continued fevers.

TREATMENT OF ANORMAL MANIFESTATIONS.

In intermittent developing itself merely on some organ, the eye for instance, or as a nervous disease, the treatment will be the same as in a normal presentation.

Intermittents being blended with a more serious disease, as dysentery, should be disregarded till the more urgent affections be cured.

TREATMENT OF CHRONIC INTERMITTENT.

This, if dependent on visceral phlogosis, must be subverted by remedies adapted to the reduction of the phlogosis. Should there be also obstruction, some alterative, especially mercury, should be employed. Kept up by habit, a blister on the epigastrium, may be used. Emetics may be employed for the same purpose, when there is certainly no inflammation. The bark may be well employed, when there is no phlogosis, but when there is, it is highly pernicious. Arsenic and copper are sometimes better, however, than bark.

When an intermittent has been long dormant, and is re-developed in the winter, for instance, by the supervention of one of

the phlegmasiæ, the primary treatment should be addressed to the phlegmasia. But this being cured, and the intermittent remaining, recourse may be had to bark, or other tonics.

D I E T.—This should co-operate with the treatment, and be more or less nutritious, accordingly.

Intermittents, though some have attempted to prove them to be salutary, should be cured as soon as possible. It is not true, moreover, that they have much tendency to cease spontaneously. The earlier, too, we commence with tonics, after the evacuant preparation, the better.

Intermittents have a tendency to be revived every seven days. In anticipation of this, therefore, we should administer our tonics, for three different periods.

In consideration of the great disposition of the disease to return, even when seemingly eradicated, all exciting causes ought to be avoided. If the patient do not emigrate from the miasmatic district, he should be particularly careful not to go out in the morning without having first eaten, and should take daily doses of quinine alone, or with iron. The cold bath or travelling often succeed in preventing relapses. An attack being threatened, the patient should go instantly to bed, cover himself warmly, and take an opiate. But as a preventive of a paroxysm of the pernicious congestive intermittent, so much dreaded, the most efficacious appliance is a blister to the epigastrium, so as to be fully drawing at the time of the expected accession. At this juncture, also, is to be given the following mixture:

R.—Sulph. Quiniæ gr. viij.
Sp. Æther. Nitr. ℥j.
Tinct. Opii gtts. xxv.
Aq. Font. ℥j.

FEBRIS REMITTENS OR REMITTENT FEVER.

THIS is a fever, which, though observant of somewhat regular exacerbations and abatements, never wholly subsides like an intermittent.

Remittance is common to many febrile conditions; but in the one now in view, commonly called the autumnal bilious remittent, it forms a striking characteristic. Endemic to hot countries, it is seldom met with even in temperate regions.

It will be here described as it occurs in our own country. It is more pervading and severe in the southern and southwestern portions, in miasmatic districts, and particularly when intense heats succeed heavy rains. By no length of residence, in some places at least, is the protection of acclimation acquired, except by the negro, on whom it seems to be partially conferred.

It appears in the South as early as the first of June, though it seldom shows itself with us before the close of August. It is rarely seen in large cities, except on their confines.

SYMPTOMS OF THE INFLAMMATORY FORM.

FORMING STAGE.—Anorexia, languor, heaviness, and anxiety, alternate sense of heat and cold, obtuse pain in the head, back, and limbs.

CHILL.—This is sometimes absent. It is generally slight, though it may be otherwise.

FEVER.—Increased pain in the head and back; swimming, inebriated-looking eyes; præcordial tightness; heat, general or partial; vomiting of bilious or other matters; a white slimy or

yellowish furred tongue; thirst, bitter taste, a feeling of burning, distension, or pain in the stomach; tender epigastrium; torpid bowels, unless they be involved in the affection; sometimes sallowness of the skin and eyes, and a strong, rapid, tense, and voluminous pulse. During the twenty-four hours, and especially in the morning, a remission is observed. The renewed attack is rarely preceded by a chill. As the case proceeds, if the attack be severe, the type changes from quotidian to the tertian.

The fever having progressed uninterruptedly beyond the fifth, and sometimes the third day, we shall find the vital powers depressed, and augmented cerebral and nervous affection.

Dr. Chapman believes there is a disposition in the disease to observe in its solution the septenary period.

CAUSES.

REMOTE.—Genuine remittents arise only from miasmata.

EXCITING.—Indiscretions in diet, exposures to the heat of the sun, or to night air, indulgence of perturbing passions, &c.

DIAGNOSIS.

Remittent is distinguished by the season of the year, the locality, the force of the attack, the distress of the stomach, the state of the tongue, sallowness of the skin and eyes, and, above all, by the tendency to remission.

PROGNOSIS.

FAVOURABLE SYMPTOMS.—Remissions regular, and increasing in length; soft and slow pulse; skin moist, relaxed, temperate, and of a natural colour; stomach quiet; the tongue cleaning and a cessation of thirst; the alvine discharges being of bile, or dark, tarry, and fetid; urine lateritious or turbid, with copious precipitates; scabby eruptions about the mouth; rational mind, with a firm and steady state of the nervous system.

UNFAVOURABLE SYMPTOMS.—Tendency to a typhoid state; delirium, or other cerebral or nervous affection; cold wrists and warm hands; gastric distress, watery alvine discharges, having a cadaverous odour; diminished secretion, or suppression of urine; dark and incrustated or flabby tongue; unnatural skin, and fetid breath.

AUTOPSY APPEARANCES.

Mucous coat of stomach, duodenum, ileum, and sometimes of colon, is found inflamed. The liver is inflamed and bloated by congestion, and generally the gall-bladder is filled with vitiated bile. The spleen is disordered chiefly by ramollescence. The peritoneum, with the mesenteric glands, is involved. No organ suffers more than the brain and its arachnoid membrane. The spinal marrow is also affected. The blood, at first presenting a dense inflammatory cake, afterwards loses its inflammatory appearance, and is nearly destitute of cohesion.

PATHOLOGY.

This fever is synochus, with a tendency to typhoid degeneration. Commencing in gastro-enteric irritation, soon converted into inflammation, the liver, then commonly the brain, and finally the circulatory apparatus, become affected. Connected as the stomach and liver are, by functional and other ties, the latter is involved in the disease of the former, particularly in warm weather, when there is a predisposition to hepatic disorder. The liver at first being merely irritated, an excessive biliary secretion takes place. From over-stimulation, it afterwards becomes torpid, congested, inflamed, and secretes not at all, or very imperfectly. Now the skin and adnata become icterose, which denotes not the exuberance, but the want of bile. The change of colour is shown, under the head of Jaundice, to result from a peculiar condition of the capillaries, sympathetic of gastro-hepatic irritation. Sometimes the heart and blood-vessels sympathize with the stomach, inducing fever, before the implication of other structures. So much do the affections of the various

organs fluctuate in intensity, that in different stages of the disease the most opposite titles are conferred upon it—that being called cerebral fever, which before was hepatic, and was primarily gastro-enteric fever.

TREATMENT.

First discover to what height the fever has progressed, and what is the principal seat of the affection.

FORMING STAGE OF THE FEVER.—Here we have gastric irritation, headache, and slight disorder of circulation. The remedies are, gentle evacuation of the primæ viæ, leeches to the epigastrium, cold to the head, a stimulating pediluvium, cold demulcent drinks, tepid or cold sponging, mild diaphoretics, as the neutral mixture, with rest and extreme abstinence.

FEVER FULLY FORMED. Venesection.—When there is a strong, full, or active pulse, a hot skin, or determination to the brain, or other important organs, this is unrivalled. *With such indications, bleeding will never be amiss.* In these fevers, with a vigorous constitution, bleeding should be rapid and carried to the verge of syncope, or to syncope itself. Small bleedings merely moderate the disease; large ones make such an impression upon the capillaries as to subvert it. The force of general vascular action having been reduced, venesection need hardly be repeated.

Local Bloodletting, especially to the head and epigastrium.

Cold Applications to the head. Sometimes they are well applied to the epigastrium. But to the latter region, *fomentations* are generally preferable.

Stimulating Pediluvia occasionally, as revulsives. The extremities are always to be kept warm.

Purgatives.—The case having been thus prepared, the bowels are to be cleansed of the morbid secretions of their mucous coat and the liver. Thus a great source of irritation is

removed. Dr. Chapman employs calomel, followed by castor oil, or Epsom salts.

Emetics.—Very salutary, as well from their tendency to equalize the circulation and restore healthy secretion, as from the evacuation of the stomach. *But they must be used only before the accession of gastritis, or after its reduction.* Gastritis is to be determined by the tongue, which is either milky white, or dark in the centre, with florid edges; by tenderness of epigastrium on pressure; sense of heat in the stomach; violent retchings, with the evacuation of a glairy fluid; and above all by extreme jactitation. It is best, however, for the inexperienced practitioner to forbear emetics, unless clearly demanded, and to substitute purging, which acts on nearly the same principles. *Evacuants should, if possible, be given only during a remission of the fever.*

Laxatives.—A recurrence to cathartics, will seldom be demanded; but moderate doses of calomel, or the blue pill, to promote or correct secretion, and remove undue accumulations, or an occasional dose of castor oil, will prove useful. We may also co-operate with enemata.

By the evacuants above-mentioned, will we succeed in producing dark, tarry, fetid, acrid stools, glutinous in character, which had formed on the bowels like an adventitious membrane. Their removal is both beneficial in itself, and indicative of a prior improvement.

Mercury, when given moderately, purges; given very largely, it creates torpor by excess of stimulation; given minutely, it acts specifically in the revival or correction of secretory power. We see, then, how it may be abused in the administration of excessive doses. If in such doses it should purge, it purges only by watery stools with great irritation. But such stools are of no value here.

But evacuations may be carried too far. By undue irritation of the bowels, in this way, an artificial dysentery is effected, with tender, tympanitic abdomen, florid, or heavily furred tongue, and much cerebral disturbance. Whenever watery discharges succeed dark, tarry ones, we should desist from

purgatives, and give only emollient enemata, or use other measures to allay intestinal irritation.

SUBSIDIARY MEASURES.

Cold Sponging.—Very soothing and useful, when the skin is steadily hot and dry, and the pulse vigorous.

Enemata of Cold Water, often repeated, under like circumstances, are, perhaps, still more serviceable. They should not be used in loaded bowels.

Antimonials.—The best of these is tartar emetic. It should be given so as not to produce nausea. Where the tartar emetic is not borne by the stomach, we may substitute the effervescing draught.

Blisters.—Applied when vascular action is high, they aggravate the fever and inflammation; but the action having been reduced, they contribute much to the complete destruction of inflammation. They also alter the condition of the capillaries, so as to effect a perspiration which had been obstinately refused before. They should be retained so as merely to produce redness, the part being then dressed with a poultice, or simple cerate.

Bark.—This may be given when the case is lingering, feeble, and endued with decided paroxysmal manifestations. The tongue, too, must be moist, the surface cool, relaxed, and perspirable, and there must be no marked local affection. Given otherwise, it is apt to cause a typhoid degeneration. *Sulphate of quinine*, however, is by high authority said to answer when the bark will not—as, where the skin is dry.

But when the disease has taken a decidedly intermittent type, then the quinine is, undoubtedly, of prime value.

The mercurial impression cannot be produced in the height of the fever, and is not needed when it has subsided. The mercurial action is the effect, and not the cause of the improvement.

Dr. Chapman limits the use of mercury, as has been seen, to a purge at first, and to small doses subsequently, designed to act upon the secretions.

In southern remittents, where the hepatic congestion is greater, somewhat larger doses may be required for the relief

of the liver. Yet he deprecates the absurd and injurious excesses so much practised. Such exhibitions of mercury can be vindicated by no circumstances, and they frequently entail the most deplorable results.

The condition which is liable to supervene in the advanced stages, by the giving way of the vital powers, being the same, essentially, with a certain phase of typhus fever, will be treated of under that head.

CONTINUED FEVERS.

THIS term is applied to fevers, which have a slight daily remission. Dr. Chapman is persuaded, that, excepting the brief febrile irritations denominated ephemera, and perhaps the yellow fever, either of which is scarcely a genuine form of pyrexia, every fever, for a certain period at least, is made up of paroxysms. Continued fevers arising from marsh miasmata, show an inclination to observe some one of the various primitive intermittent types,—some inclining to the quotidian, others to the tertian, and others to the quartan.

The term, *continued*, is used, therefore, in a qualified sense.

Of these fevers, the most common is a congestive and more continued state of the autumnal remittent which has been just disposed of.

TYPHUS, derived from the Greek τυφος (*tuphos*), signifying stupor, is the old and familiar title of such fevers. But from the disease being thus designated by a symptom not always present, and from the very ominous import of the term, it would be well, if by general consent it could be abandoned.

Congestive is used here in a sense contradistinguished to *inflammatory*, or rather as the antecedent stage of the latter in a weakened form. These terms applied to the doctrine of fever, are not very significant; but in the present state of our knowledge, what better can be substituted? There exists, often, congestion in one organ, cotemporaneously with inflammation in another.

Typhus is commonly divided into the *typhus mitior*, and *gravior*, corresponding respectively to the old terms, *nervous*, and *putrid* fevers, and with the French *ataxic*, and *adynamic*.

Dr. Chapman divides the fever, according to its degree of severity, into three grades,—the *mild*, the *intermediate*, and the *severe*. It is considered essentially congestive.

SYMPTOMS OF THE MILD FORM.

PREMONITORY.—The approach is often very mild and insidious. A mere feeling of uneasiness, for days; or languor with low spirits, hebetude of mind, and giddiness. Next, increased weakness; anorexia, or sickness of stomach; costiveness, or diarrhœa; furred tongue, which is flat and flabby; soreness of the muscles; uneasiness, or pain in the head, neck, or back, or in all these parts; with an alternation of chills and flushes, the pulse being rather irritated.

FEVER DEVELOPED.—Augmentation of cerebral disorder, evinced by vertigo, or headache, or delirium; dulness of hearing, and general insensibility to impressions; the voice faltering; the eye inexpressive; subsultus tendinum, and muscular tremors.

THE CASE EXASPERATED.—Tongue florid and polished, or, perhaps oftener, partially coated or darkly encrusted, tremulous and not always easy of protrusion; torpor of bowels, or excessive purging of thin, acrid fluids; meteorism, with tenderness of the abdomen; urine scanty and highly coloured; in cold weather, (and rarely at other times,) some acute affection of the lungs; skin usually dry and hot, or the temperature unequally diffused; an occasional eruption on portions of the body, either miliary or of larger vesicles, with intervening redness, and technically called *sudamina*. Conjointly or separately, with the *sudamina*, are sometimes found rose-coloured spots. Pulse variable. Mostly it is full and soft, becoming small, weak, and exceedingly accelerated—though Dr. Chapman has seen it throughout slow and hobbling, indicative of a very obstructed circulation. In this way, especially under bad practice, does the fever run on for several weeks, or degenerates into a more violent form.

SYMPTOMS OF THE INTERMEDIATE FORM.

PREMONITORY.—Much the same as in the mild form. May simulate at first an intermittent.

FEVER BEING FULLY DEVELOPED.—Well-defined pyrexia; heat of surface; considerable determination of blood to the head, with a tendency to delirium; heaviness, or stupor; tongue thickly furred, or covered with a white slime, or more or less dry; peculiar countenance, the eyes being suffused and dull, or swimming and fatuous, as in incipient inebriety, or the aspect being scowling and malignant, or expressive of distress; pulse generally full and slow, though very compressible, denoting much disturbance of the animal economy; breathing irregular, with deep sighing, and the breath sometimes very offensive; bowels costive; heat, oppression, and tenderness of the stomach, with occasional vomitings of bile, or glairy, viscid matter, and often unquenchable thirst. Sometimes purging early commences.

SYMPTOMS OF THE EXTREME FORM.

THE CASE ADVANCING, these symptoms are aggravated. The aspect livid, bloated, smooth and polished, or pale and collapsed, with the eyes sunken and heavy, covered, as it were, with a film. Coma, with low delirium; inarticulate utterance, or vehement ravings, or typhomania, or distraction of the senses denoted by floccitation or picking at the bed-clothes, or catching at illusory objects (called *muscæ volitantes*), or pouting of the lips. The fever continues, though the pulse is smaller, and so quick as scarcely to be counted, or, where the brain is deeply implicated, preternaturally slow. Tongue is now usually dry, dark, encrusted and chapped, tremulous, and hardly capable of protrusion, and the gums and teeth covered with the same tenacious sordes; temperature unequally distributed, the extremities

being cold; nervous tremors, a prominent symptom from the beginning, increased so as to constitute subsultus tendinum. The tendon may be thrown by the spasm over the radial artery. Convulsions may occur, or oftener rigidity of the extremities of one side. Abdomen commonly tympanitic, and the bowels, though previously torpid, discharge involuntarily large quantities of sooty fluid. Urine is deeply coloured and offensive, or pellucid, or its secretion is entirely suspended.

In the highest degree of malignity, we have glandular abscesses, hæmorrhages of black dissolved blood from the various mucous membranes, with vibices and petechiæ, and purpura or large livid spots. The pulse sinks, skin is universally cold, with a clammy sweat, singultus occurs with vomiting of a dark fluid, and death closes the scene.

This description characterizes a case of extraordinary malignity. Yet the fever may present great variety in intensity and complication.

This form of fever may terminate in two or three days by convulsions, from congestion of the brain, or may run on for two or three weeks or longer. Average duration from eight to ten days.

The severe form just described, is rarely seen in this country.

Fevers, however, usually sporadic or endemic, though sometimes epidemic, occur among us of an infinitely more congestive character. They occur generally in the autumn. The system may sink at once into a collapse from which it never emerges.

More frequently commencing with extreme muscular debility, the disease is displayed in a rapid succession of chills and flushes, the skin soon becoming permanently cold, pallid, or mottled and shrivelled. The face, in a violent attack, quickly becomes dusky red, leaden, or bronzed; the forehead smooth and polished, the eyes wild, glassy, and vacant: the aspect expressive of great distress; the brain always much affected. The alimentary canal and liver suffer, especially in warm weather, or where the foundation of the disease has been laid in miasmatic influence. In winter the lungs are more apt to be involved,

the cases then, from the livid patches on the skin, being called the *spotted fever*, or, from the lowness of animal temperature, the *cold plague*.

CAUSES.

PREDISPOSING.—Is the fever generated by **CONTAGION**? Dr. Chapman is much inclined to doubt it, but thinks it safest to consider the subject as still *sub judice*. Let it be understood, that by contagion is meant a virus secreted by the capillaries, which is capable of reproducing the same disease. The advocates of contagion adduce many instances of typhus fever attacking a great number of individuals collected in the same building, and instances to show that the disease is carried by fomites, many of which citations are indisputably authentic. It appears that the fomites are sometimes very retentive; retaining, in a case adduced by M'Cormac, the semina of the fever, for a space of two years. But generally their influence is very much confined. Dirty clothes seem to be better vehicles for this infection, than clean ones. The disease arising from fomites is said to be the most malignant. Of this infection the incubative period is generally eight or ten days, though the fever is sometimes manifested almost immediately, and at others, not for seventy days. The facts to prove these statements are multiplied and conclusive.

But, after all, what is there in facts of this kind to demonstrate that the agency employed in the propagation of the fever, is an animal secretion? They may all be otherwise explained. The fever seems to have been always generated primarily in close, crowded quarters, where are evidently means enough for its origination. And if it be possible that virus sufficient for the infection of one individual should be thus spontaneously generated, why should not all be deemed to be affected from the same source? And why, again, may not this virus be carried by fomites as readily as that which is supposed to be contagion? The doctrine of contagion, then, must fall before a simpler explanation of facts, not from positive disproof, nor from a want of analogies, but from the *want of positive proof*.

Conceding, however, every thing to the contagionists, which

is claimed by them, it must be confessed that congestive or typhus fevers do also arise from other causes. Among these, may be a want of oxygen, or excess of carbonic acid, or other vitiation of atmosphere effected in crowded assemblies. The bad cerebral and nervous effects of such assemblies are directly evinced by headache, tremulousness, nausea, embarrassed respiration, muscular relaxation, and loss of strength. The disease is owing, also, to penurious diet, miasmata, to extreme heat, or extreme cold. It is found, therefore, in reference to the last two causes, most in Winter in the North, and most in Summer in the South. Typhus is attributable, also, Dr. Chapman thinks, to inadequate evacuations, or a too early resort to stimulants in other fevers.

EXCITING.—Anxiety or grief, especially nostalgia or homesickness. In fine, whatever greatly depresses the mental or physical system.

DIAGNOSIS.

Pre-eminently discriminative, is sensorial and nervous disturbance, with simultaneous loss of muscular strength, epigastric and præcordial discomfort. From the beginning, prevail despondency and listlessness of mind and body. The dulness of apprehension, thickness of speech, tottering gait, and pallid or mottled, or dusky red hue, are also diagnostic symptoms. As the fever develops itself, however, all obscurity must cease.

Being caused by *contagion*, or *malaria*, the cerebral and nervous symptoms are exceedingly prominent, the pulse is rather irritated than oppressed, the fever is less congestive in character, slower, and seldom or never appears in warm weather. Being caused by *continued heat and miasmata*, it begins with a chill, and is of paroxysmal tendency, with predominant implication of the chylopoietic apparatus. Occasioned by *cold*, it is sudden in accession, with a protracted collapse, and on reaction there is especial implication of the pulmonary organs and nervous system, with sometimes an affection of the liver or spleen. There is nothing distinctive of

dothineritis,—the alleged marks of that affection being common to other forms of disease.

PROGNOSIS.

The fever being brought on by *contagion*, or *foul air*, runs a protracted and obstinate course, and our chief merit consists in merely rescuing important organs from serious lesion, until the fever spontaneously subsides. Should the patient be retained in a foul atmosphere, the chance of cure is diminished. In the typhus fever of the United States there is nearly always the critical tendency, with a disposition to subside spontaneously at an early period, and to submit to remedial impressions, unless there be extreme congestion, with little capacity of reaction; which condition proves very difficult of removal. Epidemic typhus is very aggravated and fatal.

The *favourable symptoms* are, abatement of the cerebral and nervous affection, cheerfulness, a subsidence of the engorgements, soft clean tongue, temperate surface, tarry alvine discharges, heavy depositions in the urine, glandular swellings, and scabby eruptions about the mouth.

The *adverse signs* are, a sense of internal heat with cold skin, or the peculiar heat called *calor mordax*; petechiæ, ecchymoses, &c.; great irritability, or preternatural composure of the stomach, with a good appetite; a polished, or dark-coated tongue, or one perfectly natural; pain in the head, nape of neck, or lower part of spine; hæmorrhages; retention, or suspended secretion of urine; the various cerebral and nervous affections; distorted countenance; insensibility to vesicatories or sinapisms, or the spots of their application becoming gangrenous; cadaverous odour; a trembling or hobbling pulse; and a disposition to slide down in the bed.

AUTOPSIIC APPEARANCES.

In the mildest cases not very well known. May be conjectured from the symptoms to consist in some congestion, with a slight phlogosis or erethism of one or more tissues.

In severer forms are found injected and thickened arachnoid, vascular and turgescient brain, stomach and duodenum inflamed, ulcerated, or ecchymosed, or softened; and the ileum, and in case of diarrhœa, the cœcum and colon, affected much in the same way, even to ulceration.

According to the observations of Louis, Chomel, and Cruveilhier, ulcerations of the glands of Peyer and Brunner, with lesions of the spleen, constitute the most uniform pathological characteristic of this fever, so that it has received the title of *dothinenteritis*. But their statements, however true in regard to typhous cases in the Parisian hospitals, are not repeated by the cultivators of morbid anatomy in Great Britain and Ireland, who assert such lesions to be very rare. One of them, Macrobin, affirms them to be confined to the large and foul infirmaries of Paris and London. Dr. Chapman thinks very few cases would be found in our own hospitals.

The glands both of Peyer and Brunner, or either set of them, may be alone affected. Those of Peyer are more commonly involved.

The glands enlarge so as to resemble a pimply, or even pustular eruption. Not being resolved, this state is prone to degenerate into ulceration. The ulceration may be deep, but is commonly trivial. The follicular affection may be independent of inflammation of the mucous tissue, or combined with it.

In cases arising from miasmata, or heat, the liver and spleen are congested and softened, and the pancreas sometimes hardened. The peritoneum and mesenteric glands are also generally implicated. The case proceeding from the action of cold, lesions of the lungs in substance, and more commonly of the pleura and bronchia, are to be found. Affection of the wind-pipe sometimes occurs.

IN MALIGNANT TYPHUS.—The solids are flabby and seemingly, though not actually, putrescent; and the blood deprived in a great measure of its solid materials, and with its constituents commingled. The viscera are marked by heavy congestion, and unless no reaction has taken place, with a weak

grade of inflammation, in which the spinal cord, ganglia, solar plexus, and the nervous filaments derived from it, participate.

PATHOLOGY.

Are low fevers, engendered by various causes, identical in nature? Bancroft endeavours to prove that there is a specific typhus fever, which reproduces itself by contagion, and which has existed from time immemorial; and that all low fevers generated by other agencies are entirely incapable of originating a contagion, and are not specific. Dr. Chapman thinks that Bancroft adduces much to sustain his proposition, and that it may be hereafter verified. In such a case, other low fevers should be called *typhoid* (*typhus-like*).

Louis, and Bretonneau hold the existence of a distinct form of low fever, different, however, from the regular typhus, and distinguished by follicular lesion. This is called *typhoid fever* by Louis, and *dothinenteritis* by Bretonneau. That there is a fever of a distinct nature, originating in, and kept up by follicular lesion, Dr. Chapman deems preposterous in itself, and as yet gratuitous. How, he asks, can a disease so singularly pervading receive its birth and be nurtured in a source so insignificant?

Still more extravagant is the allegation of those who hold that the disease itself consists in these lesions.

The early phenomena of the disease are not at all enteric. They are gastric, nervous, and cerebral. Low fevers are known to be nearly exempt from such lesions. These generally occur in children, among whom low fevers are comparatively rare. Conversely is it ascertained, also, that similar lesions exist in scarlatina, cholera infantum, diarrhœa, dysentery, tabes mesenterica, phthisis pulmonalis, strangulated hernia, and other diseases, not of a low type, and not even accompanied with fever. Were the fever a peculiar exanthematous one, as some contend it is, then the follicular pustules would be a remote effect merely.

Dr. Chapman, then, deems these lesions to be not the cause, but the result of low fever; and not a constant, but a casual result.

Andral has seen well-marked cases of the fever where no appreciable alteration of the alimentary canal existed.

Formerly fevers with petechiæ were held to be distinct in nature. But subsequently were found to derive their petechiæ from hot and badly ventilated apartments, or an alexipharmic practice. The same, Dr. Chapman suspects to be predicable of the sudamina and rose-coloured blotches, the pretended incidents of this dothineritis. There is no doubt that neglect of purging and other evacuations, has much to do with the production of the follicular lesion.

Dr. Allison, of Edinburgh, treating of fevers, in "Tweedie's Practice of Medicine," says that follicular lesion is an occasional accompaniment of typhoid fever in Edinburgh, especially during an epidemic tendency to diarrhœa or dysentery. That the symptoms and local affection are the same with those which have attracted so much attention in Paris, but that invariably, the follicular lesion is "secondary in point of date," and its appearance and disappearance "exert no influence on the essential features of the general febrile state."

The doctrine nowhere receives general adoption. Many of its former adherents are giving it up. Louis now believes the follicular disease to be merely an effect.

Dr. Chapman believes that the low fevers, like other diseases, are different in nature, from, among other things, a difference in the cause. Excepting, however, the typhus *seemingly* arising from contagion, of which he considers that imputed to follicular irritation to be merely a modification, he does not think any of these fevers acquire such a pathological difference as to materially determine the treatment.

From the external physiognomy of the anatomical characters of low fevers, like the inflammatory remittent, we judge that they *commence in epigastric irritation, which by sympathetic extension involves first the brain, thence the nervous system at large, and thence various tissues and organs, and the blood itself.* But the seat of primary irritation may not be always the stomach. Dr. Chapman, in cases excited by contagion, or foul air, has seen it to exist in the brain, and again in the lungs, &c.

Essential only to the constitution of the typhous state is a cer-

tain kind and degree of sensorial and nervous disorder, which may proceed directly from the brain itself, or may be derivative from a reflection of an irritation of any one part of the great nervous centres. In typhus mitior, the impression on the nervous system is moderate, resembling narcotism, the vascular system at an early period not being implicated.

Uniformly the result of an intense degree of such influence upon the cerebral and nervous system, is *congestion*, and by which well-marked typhus is characterized. Regarding the nature of congestion, it may be stated, that the veins become the principal receptacles of the blood, while the arteries are comparatively empty. The principal symptoms of internal congestion, are a cold, pallid, or mottled surface, an emptied pulse, or from the struggles of the heart, a full and soft, or inflated one, an indisposition of the blood to coagulate, and much oppression attended with debility.

The venous engorgement is attributable to the fact that the arteries retain their vitality and energy longer than the veins, and consequently the power of emptying themselves when such a power is no longer imparted to the veins. So we see, in apoplexy of the brain, or spinal marrow, in the inefficient state of the brain and mucous centres just before death, in hæmorrhages, and in many other diseases, that heavy venous engorgements occur. The innervation upon which the contractility of the vascular system depends, is no longer adequate for the supply of the veins. In typhus, this want of innervation results from the impression on the brain and nervous system of the remote cause.

More frequently, however, there is sufficient energy left for the institution of a partial reaction, which leads to the development, in certain parts, of a low form of inflammation. In these cases the inflammation is generally found in the surface, or investing membrane of a viscus, while congestion exists in the interior of the viscus. This presents a mitigated form of the fever.

The blood is discovered to have lost much of its fibrine and its solids; and the blood globules are observed to have been materially affected. But these changes, though they no doubt operate mischievously on the solids, are secondary in their oc-

currence to those main derangements of the solids, which we have described.

TREATMENT.

MILD FORM.—Of cardinal importance in the treatment of typhus is it, that not the name, but the actual pathological condition, should be prescribed for. What is this condition in typhus mitior? There is no great degree of active phlogosis, nor weight of engorgement, nor vitiation of the secretory functions.

Discarding then venesection, unless demanded by unusual vascular force, and emetics and purgatives, and all other harsh or vigorous measures, we resort to gentle laxatives and enemata; topical bleeding, repeated and diversified, as parts may seem to suffer; with cold or tepid sponging of the surface, according to the indications, next, to the mild diaphoretics with stimulating pediluvia, particularly if the head or primæ viæ be affected, and to the bland mucilaginous beverages, acidulated with lemon juice. Still, venesection may be necessary for the prevention of a severe developement, and will be then indicated by the intensity of the febrile symptoms, and the full and oppressed pulse.

SEVERER FORM.—Here, to no inconsiderable extent, are congestion and inflammation simultaneously manifested. This state, in our country, is commonly connected with the inflammatory remittent fever;—the early treatment being much the same, but differing somewhat.

Emetics.—Very useful at an early stage by relieving the congestion of internal organs, determining to the surface, and inducing reaction. Their employment in an advanced stage is rather hazardous. They may then be useful, should there be much irritation of the stomach from vitiated secretion or other contents, but would be very injurious in a gastritis.

Purging.—Emetics being used or not, purging is early to be attended to. *Calomel* is preferable from its more complete evacuation of the bowels, from its superior power of arousing

the recuperative energies, and counteracting the tendency to congestion, or relieving its incipient formation, as well as from its excellence in restoring, or rectifying secretory action, not to mention other salutary effects.

Venesection.—Congestion still existing, or undue febrile reaction occurring after the previous evacuations, venesection should no longer be postponed. Nay, these conditions being pre-eminently marked, it may accompany or precede such evacuations.

The quantity of blood abstracted should be such as to overcome, or sensibly relieve congestion, taking care not to transcend the recuperative limit of the system.

Cups, or Leeches.—Deeming it prudent not to employ venesection, we may substitute topical bloodletting, or this may be used subsequently to phlebotomy. These applications should be made to the seat of the most prominent local affection. They are nearly always needed for the epigastrium and head, and oftener than is supposed to the spine. Affection of the spinal marrow is denoted by pain in the part, and spasm. The speedy relief afforded by these means is hardly to be conceived, by those who have not witnessed it. They should be renewed so long as the condition is unaltered. The point of determination is frequently changed, thus requiring of us great vigilance to follow it up.

Subsequent Purgation relieves congestion by revulsion to the whole tract of the bowels, removes offensive and depressing secretions, and is promotive of healthy secretion. It is especially useful in our southern fevers. It should not be resorted to when activity of phlogosis exists in the bowels, and the drastics should be avoided. Calomel, or blue pill, followed by castor oil, is to be preferred. A contra-indication is the occurrence of thin, watery stools, indicative of increased irritation from excessive purging.

A report upon the *post mortem* appearances of the bowels in cases of this form of disease, by a disciple of Broussais, who from theoretical notions was opposed to emesis and efficient purgation, describes the alimentary canal as filled with bile and other substances, in a state of extreme offensiveness and

putrefaction. These cases continued from three to four weeks, and they eminently prove the wretchedness of the practice.

Even the natural contents of the bowels may become irritant, as is seen in the occurrence of colic, and enteritis from constipation. Dr. Chapman thinks it probable, that the dothineritis is induced, or exasperated, by this want of proper evacuation.

Cold Applications to the Surface.—Very useful auxiliaries when the skin is heated and unspirable. It is generally safest to sponge.

With such treatment, the case will, at this time, usually wear a favourable aspect. But, in case of increased vascular action, or local determination, we should again resort to a general and topical abstraction of blood. Now it is that the disease begins to grasp important organs, and if its hold be not broken, deplorable derangements of structure will ensue. The disease, however, having been mitigated, employment may be made of the

Diaphoretics.—There being still some excitement, the *mild* articles only should be used. Such are the neutral mixture, the citrate, or acetate, of ammonia, and sweet spirits of nitre. Opium, *when admissible*, may be added. These not sufficiently answering, tartar emetic may be well substituted, in quantities not so great as to harass the stomach. Dr. Chapman thinks, of all this kind of remedies, the antimonials, perhaps, have the greatest power to intercept the march of continued fever. Better, however, when the pulmonary apparatus is chiefly concerned, or when the secretions are defective, or very much depraved, is the use of the combination of calomel, opium, and ipecacuanha.

Thus we see that nearly all the remedies by which we combat the early stage of this form of typhus, are of the depleting or evacuant character, reductive in their tendency, or calculated to equalize the circulation, and diminish the heat and excitement of the system.

The mortality resulting from the imbecile treatment of the French school has been frightful. Dr. Chapman has had good opportunity of comparing the treatment here recommended with that by tonics and stimulants, and is convinced of its superiority.

Bloodletting is now sanctioned, in Europe, by the most authoritative writers. Dr. Chapman makes statistical quotations to prove the superiority of the plan. Few are the exceptions to the rule, that in the early stage of all acute diseases wearing the aspect of debility, this must be attributed rather to oppression than exhaustion.

Still, cases there may be, in which, from the overwhelming power of the remote cause, the CAPACITY OF REACTION IS BUT SLIGHT, and bleeding should be very cautiously conducted, lest it tend only to waste the remaining strength. In these cases the pulse forms no guide as to the propriety of venesection. The action of the heart, though perhaps more trustworthy, is also fallacious. *Acuteness of pain*, warmth of skin, and integrity of constitution, are the best indications for the practice. The confirmed drunkard in no disease bears depletion well. Considered allowable, venesection is to be tried with the greatest care, and, according to the effect, must we stop, or proceed to a further abstraction. Even then, however, *local bleeding* may be safely and efficaciously performed. *Emetics* are applicable, especially salt or mustard, which do not weaken the tone of the stomach, nor depress the vital energy, and are followed by prompt and enduring reaction. *Calomel*, freely exhibited, and at short intervals, is another important measure.

These measures failing, resort to sinapisms placed at various points, and particularly over the epigastrium. Should so great a delay be admissible, a blister to the epigastrium may be substituted. This application acts, not only by revulsion to the surface, but by a direct relief afforded to the stomach, with which, so greatly, the whole economy sympathizes. But still more does Dr. Chapman imagine it to act by its influence upon the solar plexus and ganglia behind the stomach. It is upon the want of innervation, partly, from these centres, that the congestion of the viscera depends. From the dependence, also, of the respiratory function and the circulation upon the upper portion of the spinal marrow, there is an indication for the application of a sinapism or blister to the nape of the neck.

These not answering, bags of hot sand or hot oats, may be laid along the body.

Concomitantly with these measures, should be administered active diaphoretics and warm cordial beverages.

That powerful stimulants, at this conjuncture, may relieve the congestion from torpor, is undeniable; but, failing, by their *vis a tergo*, they either increase the congestion, or superinduce inflammation. The better plan is to precede their use by depletion, or *stimulate and bleed simultaneously*. But in cases of absolute sinking, stimulation is unconditionally and immediately required. Then may be given ether, carbonate of ammonia, camphor, hot toddy; or, should the disease have a miasmatic origin, quinine and opium, combined, will be found singularly adapted. Such urgent cases, however, seldom appear. The system having recovered, under these external and internal stimulants, the means formerly mentioned should then be tried, namely, bloodletting, vesication, mercurial purging, &c., and, subsequently, calomel, opium, and ipecacuanha.

TREATMENT OF THE STAGE OF EXHAUSTION.

Little does it matter what may have been the incipient nature of the fever, inflammatory or congestive; from the neglect of proper evacuations, from the premature use of stimulants, and from bad ventilation, the case may fall into a state of exhaustion. A man in perfect health could, by the same means, be reduced in a short time to the same condition. From the comparative inattention of nearly all authors to this subject, it is dwelt upon by Dr. Chapman, the more minutely.

Nothing perhaps in the exercise of our profession is more difficult than to discriminate the period at which, in an acute disease, stimulants may be advantageously used. Judging from the pulse, tongue, skin, topical pain, &c., we perhaps make up our mind to try them. But their effect must be most closely watched. Being ill-timed, they produce pain in the head, morbid vigilance, or delirious wandering, or stricture of the chest, jactitation, hot, dry skin, parched tongue, thirst, disordered stomach, a quick, small, corded pulse, and vitiated secretions. Unless they act upon one of the secretions, they generally raise a febrile commotion. As a common rule, stimulants

are not to be given, when there is reason to believe in the existence of inflammation, especially of the stomach or brain.

Deciding on the use of stimulants, the following may be resorted to.—

Carbonate of Ammonia.—No other stimulant will answer so well, or is so generally approved of. From the action upon the skin and other secretory organs, it may be used with less dread in equivocal conditions. It should be given in small quantities, and be frequently repeated. Over-stimulation is much to be guarded against. Admirably co-operative with this medicine is wine whey. They are generally prescribed together. The effect, however, of the carbonate of ammonia wearing off, as is speedily the case, with all the diffusible stimuli, recourse may be had to

Camphor.—Dr. Chapman has always used it in connexion with opium and ipecacuanha, and rather doubts its utility when used alone.

Vapour Bath.—To be used if the skin is cold or dry, or the temperature unequally diffused. The production of a halitus from the skin is preferable to a sweat,—the good effect resulting from the change in the condition of the capillaries. Should the vapour bath stimulate too highly, and create jactitation, we should substitute sponging with tepid vinegar, or spirits and water, which often has the best effects.

Epispastics.—Cotemporaneously, or antecedently to the course just mentioned, should be used the epispastics, which not being called for by local affection, should be applied to the extremities. Dr. Chapman, by retaining them only to the production of rubescence, avoids strangury, sloughing ulcers, and other detriments.

The Sulphate of Quinine.—An excellent remedy, and particularly useful, when the disease is of a miasmatic source, or shows a tendency to remission.

A new stage of the disease now calls for a new class of means.

Opium.—Used in small doses, it is a general stimulant, but its chief value consists in the relief of low delirium, nervous tremors, subsultus tendinum, mental and corporeal distress induced by morbid vigilance, anxiety, and restlessness; and

the relief of diarrhœa. In these cases it may be more freely or largely applied. For the soothing of sensorial and nervous agitation the acetate of morphia, or acetous tincture of opium, or *camphor*, is very well qualified.

Musk, Assafœtida, Castor.—Not so good as opiates, but may be substituted for a change. The musk, when pure, which it hardly ever is, is excellent.

Wine.—As a cordial and nutritive stimulant, the best. When pure, Madeira and Sherry are to be preferred. Claret may be also used. The quantity should be small at first, to be increased according to the diminution of susceptibility.

Carbonic Acid.—To this practitioners were led by the notion of its tending to counteract the tendency to putridity. But in the living state, putridity never takes place, nor is there any tendency to it. The putrefaction of bodies covered with petechiæ, &c., is the slowest. The carbonic acid, however, is a cordial and agreeable stimulant to the stomach. It may be taken in porter, ale, cider, or champagne wine.

The *mineral acids* are remedies of moderate value, and best suited to the hæmorrhagic condition.

At this period some practitioners trust to the mere use of mercury. This, Dr. Chapman regards as absurd. He uses it only with opium and ipecacuanha.

Oil of Turpentine.—Excellent as a stimulant and as a corrective of the secretions of the alimentary canal. It is well suited to hæmorrhagic cases.

Dr. Stephens has published accounts of the wonderful success of the saline treatment. This he connects with the theory of fever being essentially a humoral disease, in which the salts of the blood are deficient. But his accounts bear the stamp of enthusiasm and exaggeration. The saline treatment, on a similar theory, was tried unsuccessfully in the Asiatic cholera.

These remedies, which we have mentioned, having failed, they must be repeated in augmented doses. Phosphorus, a potent stimulant, might here be used. But great care in this, as in other cases, is requisite, lest, in the enfeebled state of the stomach, the medicine act upon it chemically.

Blisters here do no good, and may eventuate in gangrene.

But friction over the whole surface with the oil of turpentine and olive oil, or other stimulant, are sometimes serviceable. Such also is the application of warmth.

The patient being unable to swallow, administer medicines by the œsophagus tube, by the rectum, or by a new surface. Dr. Chapman thinks in the advanced stages that it would be always better to administer our medicines by injection, the rectum then presenting a more susceptible surface than the stomach.

Sometimes a cure is effected, when the case seems desperate.

TREATMENT OF INCIDENTAL AFFECTIONS.

1. *Determination to the head, with delirium, or stupor, or a tendency to it.* Arising from *inflammation*, the hair should be cut off, and cold applications made to the scalp. These failing, resort to topical bleeding, stimulants to the lower extremities, and a blister to the nape of the neck. Arising from *congestion*, these remedies are equally applicable, excepting the cold. But in an advanced stage, from whichever condition the affection may proceed, Dr. Chapman relies most upon opiates, camphor, musk and assafœtida, &c. These are as well suited to nervous tremors, &c., and even to convulsions.

2. *Restlessness and want of sleep.*—In the early stage, when these affections are usually associated with increased heat of skin, cold to the surface is most tranquillizing. After the force of action is reduced, opiates may be properly prescribed.

3. *Excessive nausea, or vomiting.* Proceeding from ingesta or accumulations of bile, or more offensive matter, which may be known from the character of the ejections, it will be necessary to repeat the emetic, to administer tepid water, or to purge with calomel, Epsom salts, or magnesia. Proceeding from mere irritability, use may be made of effervescent draughts; lime-water and milk, or milk alone, or other alkalies; small portions of calomel with a little morphia; mint tea; strong coffee, without cream or sugar; acetate of lead, in small quantities; prussic acid; the spices; the clove bag, wrung out of hot brandy, to the epigastrium, or sinapism or blister to the same region, with

stimulant pediluvia. Before trying any of these, we should be sure there is no gastritis. In this case, topical bleeding should be repeatedly employed, with cold or warm applications, and finally a blister.

4. *Diarrhæa*.—Supervening in an advanced stage, to be treated by astringents, opiates, and the cretaceous preparations.

5. *Hæmorrhage*.—Sulphate of quinine largely given, the mineral acids, oil of turpentine, and perhaps phosphorus.

6. *Diminished urination*, at an early stage. Topical bleeding, counter-irritation, and the mild diuretics. Retained urine must be drawn off by the catheter. Contraction of the bladder may be sometimes induced by cold or hot applications to the pubes and perineum.

7. *Meteorism*.—Carminatives useless. Castor oil and oil of turpentine, with injections of the latter, or of assafœtida, promise most.

8. *Singultus, or hiccup*.—Being occasioned by irritation of the phrenic nerve, at an early stage, it is relieved by cupping, and a blister to the back of the neck. Occasioned by irritating sordes in the stomach, it is palliated or removed by alkalies, or acids, or by ether, Hoffman's anodyne, or other antispasmodics.

DRINKS.—A moderate quantity of liquid may be allowed. Acidulated drinks, or barley water, rennet whey, &c. In active phlogosis of the stomach, iced water, or ice itself, may be amply given. The thirst may also be quenched by enemata of cold water. The tastes of the patient may be much consulted. The mouth should be cleaned with lemon juice, or yeast, or charcoal and water.

FOOD.—The drinks will be sufficiently nourishing, except when tonics and stimulants are indicated, and then the diet may be changed to co-operate with those measures. The morbid and ill-boding appetite, sometimes manifested, should not be indulged.

LIGHT AND COMPANY, and whatever accelerates the pulse, should be particularly excluded.

VENTILATION.—Highly important in typhus. Cleanliness equally so. The linen to be daily renewed. Unpleasant effluvia to be avoided by sprinkling vinegar or cologne-water, or by muriatic or chlorine fumigations. Dr. Chapman doubts the anti-contagious power of such articles as the two last, but thinks them, at all events, generally inapplicable from the oppression they cause the patient.

The disposition of the patient to get up, should be opposed. In an old case, however, and where the febrile action is much reduced, much benefit may accrue from sitting up, and from passive exercise.

CONVALESCENCE.

In some fevers there is a great disposition to relapse.

In the first place, then, the patient should be removed into a new room where every association with his sickness will be removed. He is to be shaved and freshly dressed. His diet should consist at first of the farinaceous articles. Next may be allowed, chicken-water, essence of beef, soft boiled eggs, oysters, boiled chicken, &c. To eat often, and but little at a time, is a golden rule in convalescence.

Pure water is generally the best drink, though should the condition require it, malt liquor is better than wine or ardent spirits.

Very slowly should the patient return to the usages of life. Especially should much intellectual or physical exertion be avoided.

After complete apparent recovery, the pulse will sometimes retain a singular celerity. This, for the most part, subsiding spontaneously, may yet be the consequence of some cardiac lesion, perhaps of effusion, and require rest, low diet, and small doses of digitalis and colchicum.

The patient, however, remaining feeble and without appetite, resort should be made to the tonics,—elixir vitriol, bark, the pure bitters, &c.

Excessive vigilance is incident to convalescence from this fever. It may arise from cerebral excitement, original or reflected from some abdominal viscus, or from what is called *nervousness*. In

the last case, it may be treated by the acetous tincture of opium, morphia, lupulin, henbane, Hoffman's anodyne liquor, or the spider's web. Arising from an empty stomach, it may be obviated by a little food taken an hour before retiring.

Diarrhœa is to be treated by laudanum; costiveness by rhubarb, which laxative is not incompatible with the opiates that may be required by other affections.

YELLOW FEVER.

THIS disease, although expressed by many different names, has never yet received a judicious one. It has been called *typhus ictorodes*, *typhus cum floridine cutis*, *maladie de Siam*, by the French, and *vomito prieto*, or *chapetonado*, by the Spaniards. The yellow fever is an endemic of tropical climates, though occasionally incident to more temperate regions.

SYMPTOMS.

INTRODUCTORY.—Generally, lassitude, stiffness of limbs, and uneasiness in the back, loins, and calves of the legs. Soon after, a sense of coolness, which is succeeded after many hours, or more speedily, by a dry, hot skin; dull, or acute pain of the head, darting through the eyeballs; injected eyes, and a *countenance* expressive either of fierceness or incipient drunkenness. Sometimes, however, the countenance betrays no change, or even a preternatural serenity, or a look of great distress, with lachrymation, or a malignant frown, and the face is either leadened or bronzed, with a marble-like expression. The *mind* usually preserves a singular integrity throughout the disease, though there may be from the beginning indications of its aberration or weakening. *Epigastrium* tender, possessing often a burning sensation, with anxiety and oppression at the præcordia. The *bowels* usually maintain an obstinate torpor; the tongue is little changed, or white and fuzzy.

AFTER THE FIRST TWELVE HOURS.—An exacerbation of the fever. Evidence of undue accumulations of blood in one or more of the viscera. Deep sighing, nausea, retchings of

mucus, or glairy albuminous matter. Vomiting seems to take place by an irregular convulsive movement of the diaphragm. Wretchedness; the tongue milky, broad and fuzzy, or florid, or of a fiery redness, or perfectly natural.

NOT ARRESTED, the case now rapidly becomes worse. The eyes assume a dirty yellow colour; circulation more irregular, the carotids, in particular, pulsating strongly; the surface damp or sweaty, with a state of skin approaching to œdema, and of a yellow hue, though this last occurs only in cases of extraordinary malignity. Frequently, sore throat; difficult deglutition, and, sometimes, paralysis of the extremities.

TOWARDS THE CLOSE OF THE THIRD DAY.—*Not unfrequently an apparent abatement of most of the bad symptoms.* Soon afterwards, however, supervene almost unquenchable thirst, and discharges usually of the dark, flaky, granular matter, called *black vomit*. Contemporaneously occur a reduction of temperature, and decrease of vascular action and muscular power, though the last may be fully retained to the end. Feeble pulse, cold colliquative sweats, involuntary diarrhœa of matter like the *black vomit*, hæmorrhages of dark blood, low delirium, with coma; laborious respiration, singultus, collapsed countenance, muddy eye, tumid abdomen, occasionally sallow or livid skin.

Sometimes, however, there is an anomalous absence of many of the derangements which we have just described. The patient is unconscious of disease, and, without manifest delirium, insists upon going out and resuming his avocations. But even here, *the peculiar countenance, the deep sighing, and tender epigastrium*, distinguish the disease. This serene state will in two or three days terminate by a sort of swooning away, or will become more developed by the supervention of black vomit and other characteristics. In other cases, death takes place without the slightest premonition, and with the suddenness of a blow.

Sometimes is the disease shown only by pain in the toe, or some other anomalous part. Priapism has been also remarked as the only manifest affection. Also, in the female is apt to

occur pruriency of the pudenda. The epidemic seems to select for the force of its attack, the part most predisposed. Displayed generally in the epigastric region most forcibly, it may fall on any of the lower viscera, or the lungs, or the cerebral, muscular, or nervous system, the affection of which may be so preponderant as to obscure the real disease.

CAUSES.

Dr. Chapman believes that the disease is of domestic origin. He thinks, however, that it may be generated from the materials which are contained in the holds of ships, and that it is never carried by fomites. But the distempered atmosphere of a port at which the fever is raging, may be confined in the hold of a vessel which is hermetically sealed, until the hatches are opened in another port. During this time the crew will not of course be subject to the disease, though they may acquire it at the opening of the hatches. Likewise when the miasm is generated from a putrefying cargo, the crew may be exempt until the hold is opened.

It is equally certain, however, that the same kind of miasm may be evolved by the putrefaction of domestic filth in certain positions, as was evinced by the fever in this city in 1805, and in Baltimore and New York. Whether exhalations from filth, local or imported, will be productive of this fever *under all circumstances*, remains to be determined. Reasons there are, however, to suspect that the tendency to spread is enhanced by high temperature steadily preserved. We may suppose, also, that the generation of the miasm is dependent on a certain constitution of atmosphere.

The fact that the miasm of yellow fever is never generated beyond the watery margin of the city, was originally asserted by Dr. Chapman; and though the contrary has been affirmed, the proofs alleged have not been conclusive. Could mere masses of putrefaction produce the miasm, it would exist throughout the country, where these are most abundant. The filth of our cities proves inoperative to this effect, except in this particular situation. The fever has invariably appeared along the wharves,

and rarely extended itself far into the city, or beyond the influence of this position. In this city it was the opinion of the most experienced of our practitioners, that Third Street, which was little above a third of the city, constituted the limit of atmospheric distemperature. The same thing has been reported of the yellow fever, as it appears in South America and in the West Indies. The only exception is in Spain, where it is represented occasionally to have prevailed in some of the interior cities. But whether such really be the fact, or the disease be the ordinary typhus of Europe, our information at present is too indefinite to enable us to determine positively. As to our own country, similar statements have been made. They are, however, illy authenticated. The fever is said to have occurred repeatedly at Natchez; but this fever has a much closer affinity to our ordinary bilious, than to the yellow fever. Yet, in consistency with Dr. Chapman's principle, which claims the influence of water to be an element necessary in the production of the yellow fever, it is possible to suppose that the fever is occasionally generated along our great lakes and rivers. That the fever should be generated only in this watery position, may be attributed to the moistness of the filth, though this is only conjectural. The materials from which the exhalation proceeds, are in some cases doubtless very small; yet reflecting on the wide-spread diffusion of the odour thrown out by musk, it may be readily conceived that the effluvium, arising from a source hardly visible, might still be highly operative.

Fevers do arise in situations where none of the materials of miasmata exist. The yellow fever here, as in other places, avoiding, as it were, foul and dirty wharves, has broken out on the neatest. But this may be perhaps explained on the supposition that where the surface is dry and clean, there are accumulations below, from which, through the crevices, the poisonous miasm escapes. It may be moreover affirmed, that the fever has generally appeared and raged to the greatest extent on wharves recently made, and filled up with the filth of the streets and argillaceous soil of cellars.

Yet, contrary to all this, has it been affirmed that yellow fever is of contagious origin. By contagion, it is presumed, is here

meant what the word legitimately signifies,—a virus generated in one individual, through vitiated vascular action, capable of communicating the disease to a second, and so of multiplying it indefinitely. Opposed, however, to the doctrine of contagion, are the following considerations:—

1. The fever is sometimes an epidemic, in its nature, laws, and effects.

2. The disease has in no well-attested instance spread, when removed from the infected districts. In our hospitals, was this fact most conclusively exhibited. Here, the nurses, physicians, and other attendants, though exposed as much as possible to any contagion which might have existed, were exempt from the disease. As an *experimentum crucis*, the black vomit, the saliva, and the serum of the blood, have been harmlessly inoculated into the system. The vapour, also, from the black vomit has been breathed, and two ounces of it have been swallowed, with impunity.

3. The disease has been invariably suppressed on the accession of cold weather, differing in this respect from contagious diseases. These, from the free ventilation, or from the volatility and diffusion of the virus, are less prevalent in warm weather.

4. In contagion, the sphere of communication is very narrow. But in numberless instances has yellow fever been taken by individuals, who had held not the slightest intercourse or proximity with the sick, but who had merely passed through the street in which the contagion was alleged to reside.

5. Even the line of demarcation may be drawn with tolerable precision, indicating the limits of danger, excepting when the poisoned air may be wafted over it by the force of winds. Dr. Chapman has always found the spread of the fever to be in the direction of the wind.

6. Unlike contagious diseases, which originating in a single point, thence radiate, yellow fever simultaneously appears in remotely separated positions.

7. In favour of the non-contagious character of the disease, an appeal might confidently be made to probably nine-tenths of the profession who have had opportunities of becoming conversant with it. This argument has some force, from the fact

that the question is one so much dependent for its solution upon the mere observation of simple phenomena.

But it has been alleged, that while the fever is not generally contagious, it does under certain circumstances prove so,—as in crowded, ill-ventilated places. But this assertion, however plausible, is wanting in proof. The cases alleged in support, are only five or six in number, which occurred in the country, where the yellow fever seldom or never exists, and in the practice of men who, from want of acquaintance with yellow fever, would be unable to distinguish it from malignant cases of ordinary autumnal fever. It is indeed to be recollected, that according to the erroneous doctrine of the time, the only difference in the two diseases, regarded their degree of violence.

In the immunity which is rendered by one attack of yellow fever, this disease has been said to resemble contagious diseases. But it is untrue, that in contagious diseases subsequent protection is so generally afforded by one attack. No agreement exists among the advocates of the hypothesis, as to the mode in which this disease, acknowledged in its general character to be otherwise, becomes contagious; or, in other words, how a vitiated atmosphere operates in the case. Chisholm says, that it merely increases susceptibility to the impression of the virus already received into the system, and at the same time enhances the action, giving the fever a more aggravated and malignant shape.

Professor Hosack maintained some “chemical combination with the virus already secreted from the diseased body, and that thereby the contagion becomes more or less multiplied according to the extent and virulence of such vitiated atmosphere.” Disclaiming, as he does, the notion of a *tertium quid* being formed in the operation, such would nevertheless evidently result.—

Professor Rush supposed the contagion to originate in an exhalation from the excretions of the patient: but were such the case, the disease thus produced would be as diversified in its nature as the effluvia from these various sources. Contaminated air, however, Dr. Chapman does believe to influence yellow fever, by the induction of a typhoid state. The typhoid impression

may even be so strong as to supplant the primary nature of the disease, but then the contagion would be of typhus, and not of yellow fever.

By the researches of Webster, it has been demonstrated that *all climates are liable to the periodical visitation of epidemics, and that they alternate as regards their general character, two of the same nature never occurring in immediate succession.* In our own country the yellow fever was repeatedly alternated with the spotted fever, a species of typhus.

It is to be lamented, however, that in all countries in which legislation has attempted to put barriers to the progress of yellow fever, the most harassing laws are founded upon the almost exploded doctrine of contagion.

EXCITING CAUSES.—The ordinary exciting causes of febrile affections. Sleep seems to have some tendency to its production. In this state, the greatest proportion of attacks takes place.

Period of Incubation.—The average period is from two to three days in the commencement of the epidemic, becoming greater towards its close, as the poison is, probably, more diluted.

DIAGNOSIS.

Distinct from its exclusive prevalence in cities, and along the wharves, there are peculiarities in itself, so striking, and particularly the countenance of the sick, that it has scarcely ever been mistaken. It bears the closest resemblance, perhaps, to aggravated autumnal fevers. They differ in the following respects:—

1. Yellow fever originates in a miasm, which is generated only in particular positions, and at certain times; while, to a greater or less extent, common bilious fever is incident to many climates and all seasons.

2. The diseases differ in type and in symptoms. The difference is manifested in the pulse, tongue, respiration, discharges from the stomach, condition of the secreting power of the liver,

in the muscular and nervous systems, in the countenance, and especially in the expression of the eye.

3. The yellow fever has its seat and throne in the stomach, while the bilious, though of gastric origin, chiefly involves the liver.

4. The convalescence from yellow fever, is rapid and complete; from bilious fever, slow and precarious. In yellow fever the susceptibility to the disease is destroyed or diminished by an attack; in bilious fever it is increased.

5. The treatment adapted to bilious fever, totally fails in yellow fever.

6. The mildest case of yellow fever is as easily designated as the most violent and malignant.

PROGNOSIS.

Like other malignant epidemics, the fatality is greatest at its first appearance, and afterwards gradually declines.

Cases marked by forcible reaction and high fever, are most favourable; and the reverse are those connected with confirmed relapse, extreme epigastric, or præcordial uneasiness, jactitation, delirium, or coma, or vomitings of tenacious albuminous matter. Still more desperate are the cases, which, with the peculiar physiognomy, little or no affection is evinced. Especially ominous is an eager desire for food, and, above all, solid animal food, with the morbid venereal feelings, to which allusion has been made. Of the worst import is that exquisite nervous sensibility productive of tetanus or hydrophobia, or where the whole suffering, to an excruciating degree, is concentrated in a part (the pudenda, or testicles, more commonly), or the tongue in an advanced stage, suddenly clearing, or the pulse, previously bad, becoming, with a deterioration in other respects, conspicuously better, or the *occurrence of the black vomit*. Cases thus characterized do not recover.

The disease mostly terminating on the third or fifth day, may do so in a few hours.

However severe the case, convalescence is almost inconceivably rapid and complete.

AUTOPSIIC APPEARANCES.

The most prominent lesions are in the epigastric region. On opening the stomach we discover, sometimes a dark fluid, hereafter to be described, and the food, drinks, and medicines taken, in some instances, several days before, wholly unaltered by the digestive process. The mucous membrane presents the evidences of phlogosis. These are also manifested by the duodenum. Nearly always, in Philadelphia, has the liver been healthy, though the reverse has occurred elsewhere. Implicated also, occasionally, are the spleen, kidneys, urinary bladder, heart, and lungs. The brain is but little affected, even when cerebral disorder is strongly marked.

During the last years of its prevalence, instead of the inflammatory, the fever presented the congestive character.

In the year 1820, when the Philadelphia Yellow Fever Hospital was under the charge of Drs. Chapman and Hewson, two important facts were there established. The *black vomit* was determined to be only blood more or less altered: in proof of which, it might be visibly pressed out of the vessels. It was observed also, that whenever this fluid had been discharged in great quantities, the mucous coat presented a pallid hue. The general appearance of the fluid is that of coffee-grounds, or the sediment of port wine, though it is sometimes sero-sanguineous, and sometimes exactly like the menstrual fluid. The black vomit, when fresh, was found to be replete with animalculæ. The blood was exhibited from the concrete mass, to absolute fluidity. Dr. Chapman never saw it fully separated into its constituents, crassamentum and serum.

Cases have been reported as being destitute of all lesion.

The black vomit is not pathognomonic of yellow fever.

PATHOLOGY.

The nature of this fever is still almost as much disputed as other points in its history. Like other epidemics, influenced by various agencies, it is sometimes inflammatory, and some-

times congestive. Sometimes the two conditions are blended. The disease originates in a peculiar irritation, or congestion, or inflammation of the stomach; which is proved as well by the symptoms, as by dissection. This state involves the nervous connexions of that organ.

Between yellow fever and the condition induced by certain poisons, both in commencement and progress, has often been observed the most striking parallel. This parallelism is most remarkable, and may be traced by any one acquainted with the action of poisons. Dr. Chapman, then, considers the disease to consist in the action of an extremely virulent poison upon the stomach, producing excessive disorder of that viscus, and involving other parts sympathetically.

TREATMENT.

Dr. Chapman enters upon this subject with the confession that he is aware of no kind of practice deserving of much confidence. Mistaken in the year 1793 for a species of typhus, it was treated, after moderate evacuations, by wine and bark.

Mistaken afterwards for a form of the ordinary autumnal fever, it was treated by copious venesection, and subsequently by brisk purgations, and sometimes by emetics.

While the last course was pursued, some French practitioners from St. Domingo, instituted a new practice. Their remedies were adapted to calm the irritation of the stomach. Having checked vomiting by the ordinary means, their next object was by diluent beverages to wash out the offending cause.

Of these kinds of practice, the last, if not the best, was at least the most harmless.

Encouraged by reports from the West Indies, an essay was early made of the mercurial plan. But on the whole, it appeared that in violent cases the mercurial impression could not be produced, and that in milder forms it was unnecessary. Nor is a salivation uniformly successful. The practice has lost ground in the West Indies.

A more correct pathology having been developed by *post mortem* dissection, remedies were employed suited to the reduc-

tion of a gastritis. These remedies consisted in the lancet, leeches, fomentations and blisters, to the epigastrium, with active purging by calomel, alone, or variously combined. Vascular action being high, cold was applied to the surface, and subsequently sweating was induced by the lenient diaphoretics and the vapour bath. Vomiting was restrained by ten or twelve drops of turpentine frequently repeated. In a sinking condition, the system was upheld by the proper stimulants. This practice was in the end very generally adopted.

In New York was adopted the practice of the French physicians, combined with the more liberal employment of the diaphoretic measures.

With these plans of treatment the mortality was dreadful. In Philadelphia more than half the cases ended fatally; seventenths died at Cadiz; and four-fifths at Gibraltar.

Convinced of the inefficacy of all the existing modes of treatment, Drs. Chapman and Hewson, during the last epidemic in this city, instituted a new practice, founded upon the analogy between this disease and poisoning from acrid substances.

Emetics.—These were limited to the earliest stage, when the stomach was yet uninflamed. Their object was to remove the offending cause, or to break up the primary morbid impression on the stomach.

Lenient Purging, with calomel, or castor oil, &c.

Next followed an exhibition of the

Oil of Turpentine, in doses commonly of a drachm, every hour or two. This was taken alone, or combined with the carbonate of ammonia, or some essential oil, which latter rendered it more retainable by the stomach. Further evacuations from the bowels being demanded, a drachm of turpentine was combined with an ounce of castor oil.

Unless it be applied very early, the turpentine, in common with all other remedies, will be for the most part unavailing. The vitality of the stomach, after ten or twelve hours, is nearly destroyed, and remedies then applied to it are inert. Applications to the skin will be found equally ineffectual.

Although many patients were brought into the hospital late in the disease, yet out of sixteen thus managed, twelve recovered.

The principle on which the turpentine was employed in the early stage of the disease may be vindicated.—

Of the counter-agency of turpentine in scalds and burns, we are aware. The stomach in yellow fever is in a state probably similar. We know also that in many instances the turpentine is soothing in its effects on the stomach, removing the sense of heat and irritation in that viscus, and subduing the force of vascular action and general excitement. The turpentine, much about the same time, was prescribed in the plague of Malta, and it is strenuously recommended as the best corrective of the gastritis from acrid poisons. Dr. Chapman has for a number of years used turpentine in peritonitis, already partly subdued by depletion. In dysentery, at that point when gangrene is menaced, turpentine is more useful than any thing else. It is excellent also in cholera infantum, in a somewhat earlier stage; and in chronic diarrhœa, in which the mucous coat of the intestines is chiefly affected, it is an incomparable remedy.

But suppose, what is perhaps most frequent, that a state of feeble congestion should prevail. All are agreed to the superior efficacy of the medicine in other low fevers so circumstanced, and not less so in hæmatemesis of like character.

With similar views, and somewhat successfully, was prescribed the acetate of lead.

Yet, in conclusion, it must be acknowledged, that the turpentine will not always answer, and sometimes aggravates the disease.

The fever was treated by Dr. Stephens by certain neutral salts, to replenish the blood with its saline ingredients. Dr. Chapman's unfavourable remarks on this treatment are contained in his lectures on typhus.

Again, in the extreme southern portion of our country, has the disease been met in its inchoative stage, by immense doses of quinine. This plan Dr. Chapman has never seen tried; yet he cannot help regarding it as a pernicious extravagancy.

Dr. Chapman professes to have no great confidence in any scheme of treatment hitherto proposed.

PREVENTIVE REGULATIONS.—The quarantine laws

should be restricted exclusively to foul vessels. The cargoes of all suspicious vessels should be discharged at a distance from the city, nor should an entrance be allowed, until all such vessels be thoroughly purified.

In the construction of wharves, Dr. Chapman proposes to substitute stone for wood, and to fill up the interior with stone, instead of earth or the rubbish of the city.

Should the locality, from which the miasm proceeds, be densely built, a freer ventilation should be afforded by the opening of new streets.

The ordinary filth of the city should be removed; for though it cannot originate, it may aggravate the disease.

When the disease breaks out, the infected spot and its immediate vicinity should be evacuated, and all intercourse with them carefully avoided. It is, however, better to avoid disturbing the sick.

The stomach should be supplied frequently with food, which acts either by shielding the susceptible surface of that organ, or by calling into action the digestive process, by which the poison is destroyed or neutralized. The diet, clothing, state of mind, &c., should be properly regulated.

Thinking it probable that the miasm ascends to no great height, Dr. Chapman advises persons who are obliged to remain in the infected district, to retire at sunset to the upper part of the house.

The efficacy of fumigations of chlorine, or of sprinkling the distempered district with the carbonate of lime, is to be decided by future experience.

PNEUMONIA TYPHOIDES.

Synonymes, spotted fever, cold plague, &c.

First attracting notice in New Hampshire and Massachusetts, in 1806, it afterwards swept gradually through the whole United States. It appeared for the first time in Philadelphia in 1813, but reappeared the next winter in more fearful strength.

SYMPTOMS.

The disease was Protean; but generally the patient was suddenly and unexpectedly attacked with great prostration. An alternation of chills and heats; skin becoming dry, pale, and mottled, face bronzed, physiognomy exceedingly anxious; delirium, followed by stupor. In some instances so rapid was the onset, that persons were cloven down as by a stroke of lightning. On other occasions, the disorder was ushered in by all the circumstances of pneumonic inflammation, or congestion. In the south, there was uniformly some gastric distress.

So far, in many cases, the affection may have been mistaken for bilious pleurisy; but the extreme atony, together with pneumonic disease and mental disorder which certainly succeeded, dissipated all doubt. The tongue became a dark brown, like that of the *black tongue fever* of the west.

In Virginia, the throat was generally the most prominent point of invasion.

CAUSES.

Its origin is involved in doubt. From its prevalence in the winter, and disappearance on the approach of warm weather,

it would seem to be in some way dependent on *cold*. To this supposition, also, the similarity of fevers which are certainly thus produced, lends support.

But from the universality of its prevalence, as well as its obedience to the laws of epidemics, we must refer it to a distemperature of the atmosphere—vague as this explanation is. Like other epidemics, it gave a complexion to all other diseases. So much was this the case, that throughout the country the lancet was generally abandoned—a revolution in practice, from whose effects we have not yet wholly recovered.

The *exciting* causes are not peculiar.

The disease has occurred at various times, both in this country and Europe; and in a mitigated form, it occurs among the poor every winter.

PROGNOSIS.

When the countenance would assume a placid, inanimate expression, with the skin polished, and of a leaden or bronzed complexion, hope was diminished. But the most alarming cases were those in which the patient seemed to be little affected by his disease, could not be persuaded of his danger, and would persist in being up. These much resembled the *walking* cases, in yellow fever. But on the whole, the epidemic was more manageable than the last-named disease.

Its duration varied from a few hours to several days. It commonly terminated, however, on the third or fifth day. Convalescence was rapid and complete.

AUTOPSY.

Engorgement, usually of the brain, lungs, heart, and spleen. The throat tumefied and purplish, spotted with fragments of lymph, or covered with a pellicular coating of it. Livid patches, limited to the upper portion of the alimentary canal, or extending to the bowels. The blood was like that in other malignant fevers.

PATHOLOGY.

A state of congestion, produced in a way already fully detailed under other heads.

TREATMENT.

As soon as the alimentary canal had been evacuated, it was found best, in this city, to make an active employment of

Diaphoretics. In urgent cases, they anticipated purgatives. The best were those into which

Opium entered, particularly when there was pain. Dr. Chapman preferred the

Dover's Powder; with which were combined the free use of strong

Wine Whey, the Vapour Bath, and Hot Fomentations, to the lower extremities, the trunk, and armpits.

As the *disease advanced*, with diaphoretics were united the **Cordial Stimulants**, of which the best was the *carbonate of ammonia*. Here, too, the

Oil of Turpentine may be of use. The vital powers still sinking,

Stimulating Frictions became necessary.

There being, however, determinations to the throat, chest, or liver,

Emetics of salt and mustard were preliminary measures. Then a mercurial purgative was directed. *Local congestions* were afterwards managed by

Local Bleeding and Blisters.

Venesection would not answer in this city.

DISEASES OF THE HEART AND BLOOD-VESSELS.

THESE, until the commencement of the present century, received but little investigation.

Dr. Chapman arranges them as follows:

INFLAMMATORY.

ACUTE AND CHRONIC.

ORGANIC.

NERVOUS.

REAL AND SYMPATHETIC.

The diagnosis of inflammation of the heart or its tissues, from that of the lungs, is confessedly difficult.

In the former, however, we have the pain more severe, and seated in the region of the heart; greater deviations in the circulation, and the respiration and the sputa are less affected.

Disorganization of the heart may be suspected from the following

SYMPTOMS.

Bloated face; tumid lips; the complexion and lips purplish, though sometimes florid, or of a waxy pallor, with edematous swellings, particularly about the eyelids; countenance thin and sharp, eyes prominent and staring, and the face haggard; respiration short and difficult, with the difficulty greatly increased on exertion or mental emotion; in bad cases, an inability to maintain the recumbent posture, and sleep disturbed by frightful dreams; frequently dyspepsia, and, as a consequence, perhaps, of the gastric irritation, petulance and melancholy.

But more is to be learned from the circulation. Heart's action commonly, though not always, irregular, as is betrayed by palpitations and great variations in the *force* of the pulse. Engorgement of the superficial veins, a tumultuous circulation, or a pulsation in the larger veins, especially the jugular. Hence occur venous congestions, hæmorrhages, and dropsies.

PRIMARY IRRITATION of the heart may be either *spasmodic* or *neuralgic*. The former is denoted by the peculiar nature of its pain, sudden remission, and the extraordinary irregularity of the heart's action. The *neuralgic* affection is denoted by a pain singularly sharp and darting, with less disturbance of the heart and pulse.

SYMPATHETIC IRRITATION.—Great disorder of circulation, and almost invariably dyspepsia.

As CONSEQUENT upon cardiac disease, are the various forms of cerebral disorder—particularly apoplexy—besides, inflammation or congestion of the pleuræ, lungs, liver, kidneys, uterus; thickening, or other changes in the alimentary canal, and hæmorrhoids.

CAUSES.

As is predicable from the peculiar exposure of the heart to corporeal and moral influences, diseases of this organ are quite numerous.

Hereditary disposition, connected or not connected with malconformation. There is a greater inclination in the male than in the female. *Cold, damp, austere weather, seems to act as the most prolific cause.* Rheumatism and gout, misplaced, or metastatic. Excessive labour in doors, and in distorted positions of body. *The consumption of ardent spirits.* A stimulating, or, what Dr. Chapman believes was first indicated by himself, a penurious diet. Inordinate venereal indulgence, or masturbation. Recession of cutaneous eruptions—of

the exanthematous, and still more, of the chronic. The strumous diathesis, and the syphilitic taint, are alleged causes.

Affections of other organs, such as various pulmonary diseases, chronic irritations of the primæ viæ, enlargement of any of the abdominal viscera, pregnancy.

Moral Emotions.—Cardiac diseases wonderfully increase during times of public terror. So violent is the action of the heart when sympathetic of the emotions, that it sometimes literally bursts.

Besides this, the heart may be affected by whatever acts noxiously on the system. Hence it is, that the pulse is so often appealed to, as affording the most faithful criterion of morbid conditions.

DIAGNOSIS.

Very obscure.

By Physical Signs. From percussion little aid will be derived. This deficiency is in part obviated by auscultation; though Dr. Chapman concurs with Andral, when he says that auscultation may indicate lesions of the heart, where none exists; and, conversely, furnish no signs of such, when actually prevailing to a considerable extent. And again, after stating that it often gives very useful and necessary information, Andral adds,—though alone, and without the aid of other signs, it cannot, except in some rare instances, show certainly the existence of these affections.

To acquire the arts of percussion and auscultation, requires an ear and training, which few practitioners can command. There are many false pretenders to proficiency.

Instruction in this branch is resigned by Dr. Chapman to the anatomist and the clinical teacher.

PROGNOSIS.

From the importance of the heart, and the inferior opportunity afforded for recovery by its ceaseless motion, cardiac diseases are invested with extraordinary danger. Yet some

cases may be cured, and others so palliated, that life may be prolonged with considerable comfort.

AUTOPSIIC APPEARANCES.

The appearances of the heart are detailed in the consideration of its specific diseases. But whatever the affection may be, provided it has been long continued and severe, a sensible increase takes place in the size, and weight, and of the viscera of the three great cavities.

PATHOLOGY.

Dr. Chapman reserves what concerns the pathology of the special lesions.

Though organic changes are *chiefly* referable to inflammatory action, yet some of them occur independently of it, or, at least, without its ordinary manifestations.

Of organic affections there are three varieties: hypertrophy, caused by an excessive supply of blood; atrophy, caused by an inadequate supply; and alterations of structure, or new formations, caused by a vitiation of the nutritive functions.

TREATMENT

Should be most prompt. Of the first importance is it, to distinguish the inflammatory from the purely nervous. The remedies in the former, are depletory and evacuant, and subsequently, sedative; in the latter, or nervous, they are, in most respects, the reverse.

CARDITIS, PERICARDITIS, AND ENDOCARDITIS.

INFLAMMATION of the muscular substance of the heart itself, has been said to be extremely rare. This Dr. Chapman doubts; and he refers the absence of inflammatory appearances in *post mortem* examinations, to the well-known indisposition of the muscular tissue to disclose the usual demonstration of phlogosis. Still, it is much less common than pericarditis. But believing that the heart and its membranes may be simultaneously inflamed, and that when any one is exclusively so, we have no means of ascertaining the fact with certainty; and above all, that could it be done, the treatment would be the same, Dr. Chapman prefers embracing the three phlegmasiæ under one head.

SYMPTOMS.

Vary much, according to the violence of the attack.

INCIPIENT.—Commonly like those of pleuritis, or pneumonitis.

MORE ADVANCED.—An acute lancinating pain, sense of heat and constriction in the præcordial region, extending to the scapula or shoulder, and arm, down to the elbow, increased by pressure between the ribs, and by a deep inspiration. Sometimes, however, pain is absent; or it is trivial, or dull, and fixed; and may be felt, in all its states, most in the epigastrium, or left hypochondrium.

Inability to change the position, particularly to the left side, or to straighten, or lie on it; restlessness, anxiety, anguish;

face pale, or occasionally flushed in the left cheek, or tumid, and sometimes leaden, at times bedewed with perspiration; a disposition to syncope.

Very characteristic is the inability to assume the recumbent posture, relief being afforded by the trunk being bent, and the arms resting on some support in front. Heart usually bounding and forcible; pulse strong, full, and tense; though the former may be feeble and irregular, and the latter small, corded, intermittent, and jerking, or thrilling. The pulses of the two arms may vary. Urine high-coloured and scanty; bowels constipated, or healthy.

Headache, distraction of the senses, jactitation, delirium, distortion of countenance, which may assume the expression of terror or despair.

Complications, with inflammation of the lungs, or their connexions, or with other affections.

Cases resulting from sudden metastasis of articular gout, or rheumatism, are marked by sharp, spasmodic pain, and laborious action of the heart, with great irregularity of circulation, and pulsation in the veins of the neck.

CAUSES.

Already detailed in the *general* discussion of cardiac diseases. In this city, this disease prevails most in winter, and among those under the age of puberty.

DIAGNOSIS.

This, Corvisant thinks difficult, from the frequent complication of other phlegmasiæ of the chest. But in its simple form, Dr. Chapman has easily recognised the disease. The peculiar countenance is very distinctive.

Endocarditis and phlogosis of the lining membrane of the pericardium are marked, like inflammation in other serous tissues, with acute, lancinating pain; but occurring in the fibrous portion of the pericardium, or the heart itself, the pain is more like spasm, or it is rheumatic, or neuralgic.

But endocarditis is said to be attended with little pain—with only a feeling of præcordial oppression. At the same time that the heart's action is tumultuously violent, the pulse is feeble and intermittent; and thence rapidly follow extreme debility, great dyspnœa, tendency to syncope, &c. Dr. Chapman, however, believes the simple and early character of the disease to be highly phlogistic, and the state just described to result from the mechanical obstruction of the valves, which may, from various causes supervene; or sometimes, perhaps, from the mixture of secreted pus with the blood.

By Physical Signs. 1. PERICARDITIS.—When the effusion has become considerable, dulness of percussion. The contractions of the ventricles, give a stronger impulse, and a sound more marked than in a natural state. At intervals of various duration, more feeble and shorter pulsations, corresponding to intermissions of the pulse. Exceedingly characteristic of pericarditis, is commonly held to be the *bruit de frottement*—a sort of rubbing, or rustling up and down, compared to the friction of silk or parchment. This, at first heard faintly, near the centre of the sternum, gradually becomes more wide-spread and louder, and is then imitative of the creaking of the sole of a new shoe. From the last circumstance it is called the *cri de cuir*, or leather creak. It is produced by the opposing surfaces of extravasated lymph. But the value of this sign is much diminished by its frequent absence, its being inaudible, or by its being confounded with what closely resembles it, the sound emitted in valvular disease. The indications of serous effusions, are deferred by Dr. Chapman to the consideration of dropsy of the pericardium.

2. ENDOCARDITIS.—Dulness of sound on percussion over the præcordial region, or still greater space. Uniformly present is the *bellows* sound.

What applies to valvular degenerations, is postponed.

PROGNOSIS.

All cardiac inflammations are alarming; of which, however, endocarditis is more so than pericarditis. Life may terminate very suddenly and unexpectedly.

Commonly, such diseases, after running a course of several days, provided the brain and lungs escape, submit to our remedies entirely, or degenerate into some of those chronic states, hereafter to be noticed.

AUTOPSY APPEARANCES.

The *pericardium* exhibits redness—arborescent, punctated, in patches, or diffused. A concrete exudation on its surface, like that in pleurisy, though thicker, more consistent, and rougher. Effusions of serum in the sac, amounting often to a pint. Sometimes, though rarely, effusions of pus.

In *endocarditis*, the lining membrane exhibits various colours, from a light rose tint to a bright red, or a purple or brownish hue, local or diffused. The inflammation is highest about the valves; and the tumidity there is such as must have interrupted the circulation. Discoloration alone is not decisive of inflammation; there must be coincident vascularity, or tumefaction, or change of structure, or effusions of lymph, or pus. Coagula of blood are sometimes met with, which, when organized, are called polypi.

The *heart* itself is generally somewhat tumid, vascular, and changed in colour. Its surface is often coated with lymph, or spread with a collection of purulent matter. The interior of the heart is seldom much affected.

Pulmonary lesions are, according to Louis, discoverable in two-thirds of the cases.

TREATMENT

Is simple, but should be highly prompt.

Venesection.—Except in the aged, the inebriate, or other-

wise infirm, or in the advanced stage, this measure should be freely employed, until evidence of relief is afforded. It is a remedy of primary importance.

Topical Bleeding.—To be repeated until the force of the attack is overcome, when we may resort to

A Blister.

A Purgative in the beginning, and subsequently,

Laxatives.

Tartar Emetic, and Nitre.—Dr. Chapman is opposed to the use of immense doses of these articles.

Digitalis.—On the whole, more to be depended on, than the articles just mentioned.

Calomel.—Used by Dr. Chapman in combination with opium and ipecacuanha. It is detrimental in leucophlegmatic or depraved constitutions, but is well adapted to the sanguineous or inflammatory, in which we suspect a disposition to the secretion of fibrine.

Dover's Powder.—Useful in quieting spasmodic action of the heart. Dr. Chapman believes that diaphoresis has been too much neglected in carditis. He has found the Dover's powder particularly useful in arthritic and rheumatic cases.

Colchicum seems, in the states just alluded to, to exercise a sort of specific influence.

Stimulating Revulsives to the extremities, in order to invite a return of the rheumatic affection.

CHRONIC CARDITIS, PERICARDITIS, AND ENDOCARDITIS.

SYMPTOMS.

CASES sometimes progress to a considerable extent, without attracting any notice. Generally, however, there is some febrile movement, from the first, or at least a hectic pulse. A jarring sensation given to the hand, when placed over the heart; though there is seldom palpitation.

Little or no pain in the præcordial region, and when it does occur, it is obtuse and fugitive. But a sharp and permanent pain is sometimes felt in the *epigastrium*, *hypogastrium*, or between the shoulders. The stomach is sometimes irritable, and the head aching and giddy.

Continuing for months or years, the case grows worse, and henceforward displays no material distinction from the secondary form of the disease.

The above is a portraiture of the ordinary form; but arthritic and rheumatic cases vary considerably. In these is pain more acute and gnawing; greater anxiety and oppression in the præcordia; most violent palpitations, with a more disturbed pulse; excessive dyspnœa upon physical or mental excitement, or the recumbent posture; the disease at first distinctly paroxysmal, and, when rheumatic, dependent on the states of weather; peculiar petulance.

CAUSES.

Like those of the acute variety; or the disease may be a degeneration of an acute attack. It is oftener attributable to rheumatism than is the acute form.

DIAGNOSIS.

Still more obscure than in acute carditis. Dr. Chapman, however, believes that in a large proportion of cases, a careful investigation will lead to a correct inference.

PROGNOSIS.

Of very difficult cure, yet not so intractable as to discourage our efforts.

AUTOPSY APPEARANCES.

1. A firm adhesion is sometimes found between the *pericardium* and heart. The *former* is usually thicker and more opaque than is natural.

2. The *endocardium* is thicker, more condensed, opaque, and rough, owing either to real hypertrophy, or to an adventitious membrane. This condition exists in an exaggerated degree about the valvular openings. The valves are rendered more or less adherent by lymph. But the valves, in addition, present divers structural alterations, which will be pointed out subsequently.

3. The *heart* itself betrays the evidence of inflammation, chiefly restricted to the superficial layer of muscular fibres. Abscesses and ulcers are occasionally found in the substance of the organ. But it is sometimes, after the long existence of effusion in the pericardial sac, discovered to be in an atrophied condition.

PATHOLOGY.—Essentially the same with that of acute carditis.

TREATMENT.

When the case is recent, and we have an expectation of effecting a cure, we may resort to the following expedients:—

Topical Bleeding, sometimes may be anticipated by venesection.

Counter-irritation.

Tartar Emetic, Digitalis, or Colchicum.—According to the remarks made on their use, in the *treatment* of the acute disease.

Calomel, Opium, and Ipecacuanha.—It is only by an alterative mercurial impression, that any very material anormal condition of the heart can be rectified. Dr. Chapman's trials of the iodine as a substitute, have not proved very favourable to that medicine. But he does not discourage a fairer trial.

A Purgative at first; subsequently *laxatives*, to keep the bowels soluble. The drastics are only of service for the removal of pericardial effusion.

Regimen.—Simple food, in moderate quantities, with mental and bodily quietude, are highly important.

This plan should be persevered in for a considerable length of time, according to Boerhaave's maxim,—that *chronic diseases require a chronic treatment*.

Rheumatic cases are much benefited by a removal from an austere to a mild climate.

ORGANIC CHANGES OF THE HEART.

THESE, of late, have been multiplied with an inconceivable minuteness of division, which, however curious it may be, serves rather than otherwise to perplex, in practice. A common treatment belongs to a large portion, and the rest, with some exceptions, are irremediable.

HYPERTROPHY.

This is an increase of the muscular parietes of the heart. With this augmentation of the walls, the cavity may retain its natural size, or it may be expanded, or contracted. The first variety is called simple hypertrophy; the second, eccentric or dilated hypertrophy, or hypertrophy with dilatation; the third, concentric or contracted hypertrophy, or hypertrophy with contraction.

Hypertrophy may either embrace the entire organ, or it may be restricted to parts.

SYMPTOMS.

EARLY STAGE.—The most prominent symptom is the extraordinary force of the heart's action, in which the pulse usually participates. The hand, applied to the præcordial region, experiences a sort of rebound, the end of each shock being marked by what is called the *back stroke, or diastolic impulse*, ascribed to the refilling of the ventricles. The pulse, owing to the lengthened systole, is preternaturally protracted. The capillary system has also an unusual activity, as is evinced by a

florid, or even flushed face, and brilliancy of eye. Occasionally there is slight dyspnœa.

ADVANCED STAGE.—Disorder of system, manifested by a pallid cachectic appearance; flaccidity of the integuments; dropsy, with œdema of the face; embarrassed respiration, or still graver pulmonary affection. Most characteristic, however, is, perhaps, the *disposition to hæmorrhage*. No organ or structure maintains an immunity from hæmorrhage, though the fatal cases are most often presented in the form of cerebral, or pulmonary apoplexy. There is authority for believing that three-sevenths of each of these kinds of apoplexies are connected with this condition of heart.

CAUSES.

One of the principal causes, perhaps, is dyspnœa, from whatever source arising. All violent and habitual exercise. Rheumatism, which, by the irritation it maintains in the heart, invites an afflux of blood to it, conducive to an excess of nutrition. This nutrition, being vitiated by the existing morbid action, leads to the structural derangements incident to the case.

DIAGNOSIS.

IN GENERAL HYPERTROPHY, a rare event, physical exploration reveals only violent action of the heart, and dulness of sound on percussion.

PARTIAL HYPERTROPHY.—1. *Of the left ventricle.* This is the most common position of partial hypertrophy. Denoted, through the hand, and auscultation, by a very strong impulse between the cartilages of the *fifth and seventh ribs*, to which the strokes of the heart are confined; and here the sound from percussion is dull. Impulse of the ventricle lengthened; that of the auricle shortened.

2. *Of the right ventricle.* Stroke perceived most plainly at the bottom of the sternum. The resonance is duller, also, in this position. Hypertrophy of the left side is more apt to induce

diseases, especially apoplexy, of the brain; while hypertrophy of the right, rather implicates the lungs.

Concentric hypertrophy. Denoted by the dulness and obscurity of the heart's sounds, and their limitation to the præcordial region.

Eccentric hypertrophy. Denoted by clearness of sound, and its diffusion over nearly the whole chest.

Hypertrophy is, in general, more easily distinguished than other cardiac affections. It is indicated by the fulness of the præcordial region. From dropsy of the pericardial or pleural sac, which also evince this fulness, it may by many symptoms be discriminated.

PROGNOSIS.

By proper and *early* treatment, the disease is usually cured. It may at other times be so checked, that the patient may live to old age, without any serious inconvenience. Children are apt to outgrow it.

The disease sometimes proves fatal from the supervention of cerebral or pulmonary apoplexy, or from hæmorrhagic or hydropic effusions.

AUTOPSIIC APPEARANCES.

The heart may increase in size three, or four times, or from eight or nine ounces it may even weigh as many pounds. The substance of the heart is redder than natural, and the coronary arteries are turgid. The external and internal surfaces occasionally exhibit evidences of inflammation.

PATHOLOGY.

Hypertrophy may result from healthy nutrition carried to an exaggerated degree. This state is occasioned by violent and protracted exercise of the organ, which enlarges under such circumstances like any other muscle of the body.

Or, it may arise from inflammation, particularly rheumatic. In this case the organization is vitiated.

TREATMENT.

The same with that of carditis. Venesection and low living should not be carried to the extent of producing nervous irritability and vitiation of the blood, which will not fail to aggravate this, in common with other cardiac affections. It is highly important that sanguification should be well performed.

Calomel, with the various *narcotics*, should succeed active measures. The iodine, much lauded, deserves a fair trial.

DILATATION OF THE HEART.

THIS state consists in an expansion of the cavities of the heart, with a preservation of the original thickness of the walls, or an attenuation of them.

It is generally found in weak constitutions, or in persons of impaired health. The symptoms are consequently much modified and complicated by associate affections.

SYMPTOMS.

Early in the attack, where this is slight, and the system in a state of tolerable integrity, the disease is difficult of recognition.

A sense of weight and uneasiness in the præcordial region, or more extensively; feeble palpitations; pulse generally soft, small, and slow; frequent and violent dyspnœa, with cough and copious expectorations, as in bronchitis, or humoral asthma; face pale and waxy, though occasionally livid, and the extremities cold; turgescency of the veins, particularly the external jugular, and consequent on this congestion, hæmorrhages, and dropsies; senses and mental faculties obtuse; headaches, apparently from fulness; and sometimes stupor, convulsions, or apoplexy.

The disease is not always so violent as has been represented; some of the most severe affections occurring only during the paroxysms, to which the disease is very liable.

CAUSES.

Whatever seriously and permanently impedes the circulation—as valvular disease of the heart, or arteries, or obstructions

in the lungs, liver, &c. Whatever disturbs the heart's action, particularly a vitiated state of the blood.

But, in addition, there must be a predisposition in the organ to such alteration.

DIAGNOSIS.

Sometimes difficult, when the case is embarrassed with complications. Distinguish it

FROM HYPERTROPHY, by the passive nature of its symptoms.

FROM ENGORGEMENT OF THE CAVITIES OF THE HEART, by the less round, equable, compressible distension of the præcordial region, and by its permanency.

FROM NERVOUS IRRITATION, by its permanency.

But it is necessary in these cases, to collate all the symptoms.

Respecting the reputed *physical signs* in this affection, Dr. Chapman is convinced that some prove nothing very decisive, and that the rest are fallacious.

PROGNOSIS.

A dangerous and intractable disease, particularly when connected with contamination of body, or the destructive lesions to be mentioned.

AUTOPSIIC APPEARANCES.

Increased size of the heart; paleness and flabbiness, or softening of its substance; attenuation of its walls; disease of the *valves*, septum, and *columnæ carneæ*. These changes may be universal, or embrace only a particular auricle or ventricle.

Besides, we meet with a multitude of lesions of the lungs and abdominal viscera.

PATHOLOGY.

Dilatation is immediately owing to deficiency in the muscular power of the heart, and obstruction in the circulation, inducing accumulations of blood in the cavities of that organ, whereby through mechanical pressure the cavities are amplified, and the parietes attenuated.

TREATMENT.

In curable cases the treatment must be directed to the affections from which they originate, and by which they are aggravated.

But the dilatation being inveterately fixed by incurable affections of the heart, or other organs, we may hope only to alleviate distress; and this may be effected to a great degree.

The leading indication is to preserve the general health.

The tone of the system should be sustained by tonics, and a nutritive, digestible diet, and a residence in the country, especially near the sea-shore. The strictest prophylaxis should be observed. Nervous irritation should be calmed by a stimulating pediluvium, and a soothing nervine or an opiate. These measures not answering, the irritation will be probably reduced by cupping between the shoulders, and counter-irritation on the breast. Inflammation of the heart or other organs occurring, the usual remedies should be employed.

Dr. Chapman has relieved the heart in a desperate paroxysm of ENGORGEMENT, by the free and rapid abstraction of blood from the arm. This course, however, may not always be admissible.

ATROPHY OF THE HEART.

SYMPTOMS.

ACTION of the heart very feeble, propensity to syncope, and the characteristics of the general pathological condition with which the cardiac disease is associated.

CAUSES.

Whatever produces a general marasmus of the body, the pressure of liquid effused into the pericardium, *ossification of the coronary arteries*.

DIAGNOSIS.

The disease cannot be certainly determined.

PROGNOSIS.

Commonly fatal.

AUTOPSIIC APPEARANCE.

The heart has been found diminished to half its normal size, and wrinkled.

PATHOLOGY AND TREATMENT.

The opposite to those of hypertrophy.

RUPTURE OF THE HEART.

SYMPTOMS.

THESE may be those of the pathological condition of which it is the effect; though sometimes the rupture occurs without any previous symptoms.

CAUSES.

Occurs most among males and old people. The rupture is *immediately* excited by whatever produces strong action of the heart.

DIAGNOSIS.

Distinguished from cerebral apoplexy, by the instantaneousness of death, and pallidness of the countenance.

PROGNOSIS.

Nearly always fatal,—perhaps, when the rupture extends throughout the whole thickness, always so.

AUTOPSIIC APPEARANCES.

Besides the rupture, we may discover ulcers, softenings, partial atrophy, or partial hypertrophy.

TREATMENT.

Incurable.

AFFECTIONS OF THE VALVES.

Most common on the left side.

SYMPTOMS.

Not very peculiar. Generally, irregularity of the heart's action; variable pulse; weight, or pain in the *præcordia*; dyspnœa, cough, and expectoration; venous congestion and its consequences.

These symptoms aggravated greatly by mental or bodily excitement; and no permanent ease is enjoyed even in a state of repose, the sleep being disturbed by agitative dreams.

Life is terminated by sudden suspension of the heart's action, by pulmonary or cerebral apoplexy, and in various other ways.

CAUSES.

Over-action of the heart, and the ordinary causes of inflammation and perverted nutrition.

DIAGNOSIS.

Very difficult. This is rendered the more so from the usual complication, either as cause or effect, of some other organic disease, or of endocarditis.

Auscultation, which has been extolled by some stethoscopists as highly diagnostic, is declared by others to be very fallacious. The last is the opinion of Stokes and Graves. But supposing that the exact lesion could by such means be determined, what advantage would be gained? inasmuch as the diagnosis can only be formed when the affection has arrived to such maturity as to preclude the hope of relief.

P R O G N O S I S.

Always formidable, though, taken in the commencement, and where it is dependent on mere thickening from chronic inflammation, it may be removed.

A U T O P S I C A P P E A R A N C E S.

A part or the whole of the valves are found altered in shape, and, in cases of long standing, converted from mere thickening into fibro-cartilage, cartilage, or osseous or calcareous substance. The aperture is sometimes much contracted by the altered form of the valve.

Vegetations may also exist along the basis, and free margins of the valves. Besides, there often co-exist other organic changes in the heart and other organs.

P A T H O L O G Y.

When the lesion consists merely in thickening, or consolidation of tissue, Dr. Chapman believes it to result from inflammation; but when the substance is entirely new, he refers it to a distemperature of the nutritive process. But the latter may itself proceed from an inflammatory condition. How the impeded circulation and other effects are produced, requires no explanation.

T R E A T M E N T.

For this subject, Dr. Chapman refers to the *Treatment of Hypertrophy*, and of *Dilatation*, to be here employed according to the indication.

In consideration of the great similarity of the treatment to be pursued in nearly all cases of organic disease of the heart, and of the incurability of others, Dr. Chapman animadverts on the futility of those who lay such undue stress, as it is now the fashion to do, upon the anatomical characters, the pathology, and the minute diagnosis of such diseases.

NERVOUS AFFECTIONS OF THE HEART.

PALPITATIONS.

MAY be more violent than palpitations from organic disease.

CAUSES.

Either a nervous or sanguine temperament, either a full or an anæmic condition, exhibits a predisposition.

As exciting causes of temporary palpitations, may be enumerated mental agitation, physical exertion, stimulants, indigestible food, the habitual use of opium, or of tobacco in any form. Chronic palpitations generally arise from an irritation derived from some of the abdominal or other viscera, spinal irritation, hyperæmia, or anæmia.

DIAGNOSIS.

Quick, strong, irregular action of the heart and pulse, which is very apt to be intermittent; a sense of agitation throughout the epigastrium, and in the head; palpitations experienced more in repose than when up and moving about; sometimes continued the greater part of the night, increased by lying on the left side; often gastric disorder; a disposition to urinate, the discharge being pellucid and copious.

Again, we may conduct a diagnosis by exclusion—discovering that the palpitations do not proceed from any particular organic disease.

In nervous palpitations, the impulse, apparently great, is really moderate, and rarely repels the hand when placed over the cardiac region.

The effect of antispasmodics is also very diagnostic.

PROGNOSIS.

These palpitations generally do not lead to any serious consequence.

AUTOPSY APPEARANCES.

Sometimes, perhaps, hypertrophy, or dilatation, as an effect, and serious disease of the chylopoietic viscera, or lungs, as a cause.

PATHOLOGY.

The palpitations, at first merely irritative, may afterwards, as we are assured, lead to disorganization of the heart.

TREATMENT.

The palpitation being brought on suddenly from moral emotion, or inordinate physical exercise, the individual should rest for some time, and may in addition resort to a nervine in the former, and venesection in the latter case. Proceeding from gastric disorder, employ an emetic, or, if sufficient, an antacid.

In the chronic form, we must address our treatment to the disorder, whatever it may be, of which the palpitation is an effect. The paroxysms are to be appeased when they occur.

MEDICAL DISEASES OF THE BLOOD-VESSELS.

ACUTE ARTERITIS, OR INFLAMMATION OF THE ARTERIES.

SYMPTOMS.

THE disease, as an idiopathic affection, being very rare, its symptoms are not very well understood. They are said, however, to consist in a vehemence of pulsation in the phlogosed vessel; a sense of heat and pain along its course, with a corresponding streak of redness; extreme pain on pressure.

As *general* symptoms, we have extreme restlessness, nausea and faintness, and where the aorta or pulmonary artery is concerned, dyspnœa, cough, and thoracic pain are apt to be present.

The fever, at first perhaps ardent, is soon converted into one of a typhoid type.

CAUSES.

Probably those of cardiac inflammation. More generally it proceeds from an extension of pulmonary, cardiac, or abdominal inflammation.

DIAGNOSIS.

There can be no positive discrimination of internal arteritis.

PROGNOSIS.

The severer forms of the disease often fatal. The chief danger proceeds from the obliteration of the artery from effused lymph, or from the diffusion of the pus secreted by it, or softening, or other organic change of its texture.

AUTOPSIIC APPEARANCES.

The most common are redness of the interior membrane, interspersed with white spots; occasional extravasations of lymph, and depositions of pus; and thickening, ramollescence, and ulceration of the arterial surface. In phlogosis of the great arteries within the chest, these appearances may be extended to the heart. Indeed the red staining sometimes pervades the vessels; and hence has probably arisen the erroneous notion of fever being dependent on arteritis.

PATHOLOGY.

Mere redness is not to be regarded as a proof of previous inflammation, since this appearance often takes place after death, particularly in typhoid cases, and where the blood is preternaturally fluid.

TREATMENT

Corresponds to that of similar inflammation of the heart.

The arteries are subject to a **CHRONIC INFLAMMATION**, which, though some authorities constitute it the more common affection, is, in the opinion of Dr. Chapman, a comparatively rare event. By those who hold the other notion, it is probably made to include—

DEGENERATIONS OF ARTERIES.

These consist of extraneous deposits of fibrous, steatomatous, cartilaginous, calcareous, osseous, and other matters. From such metamorphosis no artery is exempt, but the remarks are here confined to the arteries of the cavities. The artery most usually thus affected is the aorta, and next, are the cerebral arteries, by which is laid, as is now believed, the foundation, in the majority of cases of cerebral apoplexy, and some of epilepsy. The pulmonary artery is seldom thus involved.

SYMPTOMS.

The disease is seldom betrayed by any marked symptoms, until it has reached a considerable height. Subsequently we have that sort of distress, and other effects, which proceed from an embarrassed circulation.

CAUSES.

The affection most incident to old age,—particularly ossification. Other causes are the long prevalence of gout, or rheumatism, syphilis, the abuse of mercury, intemperance in eating or drinking, and perhaps hereditary influence. But often these changes occur without any appreciable cause.

DIAGNOSIS.

We cannot, either by symptoms or physical signs, diagnosticate this disease with certainty.

PROGNOSIS.

Generally incurable.

AUTOPSIIC APPEARANCES.

The deposit is between the coats. Sometimes several kinds of degeneration are exhibited at the same time,—the case progressing from the softer to the harder deposits. Of the aorta, the beginning and arch are mostly affected.

PATHOLOGY.

When consolidation merely has taken place in consequence of the infiltration of lymph, or albumen, it is the effect of inflammation; but where the identity of structure has been lost, then the change is referable to a vitiation of the nutritive process.

TREATMENT.

At an advanced period, little can be anticipated, besides mere palliation. The measures are not materially different from those to be pursued in organic diseases of the heart.

ANEURISM OF THE ARTERIES.

By *aneurism* is meant a dilatation of an artery. This may occur from the simultaneous distension of all the coats, or by some of them giving way, causing an extravasation of blood, or by a solution of continuity in the interior coats, while the outer one maintains its integrity. These forms receive the respective names, *true*, *false*, and *mixed* aneurism.

Here will be considered aneurism of the internal vessels only. They are all liable to the affection, but the aorta being pre-eminently so, will be mainly regarded. The lesion is nearly always found either in the ascending portion or arch.

SYMPTOMS.

Being deep-seated and small, it is said to be not detectible; and death may give the first intimation of disease. Being, however, more developed, the symptoms are, cachectic aspect, palpitations or other strong pulsations, dyspnœa, cough, disturbed sleep, a tendency to syncope, irregular distributions of blood, creative of congestions, and sometimes lividity of countenance, passive hæmorrhage, and serous effusions. These symptoms, though common to many of the cardiac affections, are apt here to be more intense.

CAUSES.

Like those of associated cardiac affections, and spontaneous aneurism in external arteries.

DIAGNOSIS.

Very pathognomonic when it exists, is a tumour-like prominence in the situation of the aneurism, with a heaving pulsation.

The paroxysmal occurrence of the symptoms best distinguishes the nervous affections which resemble aneurism in their manifestations.

Percussion at the top of the sternum may elicit a dull sound, and through the stethoscope applied to the same region, we may discover a loud, rough, or abrupt *bellows sound*, or a purring murmur, or a slight whizzing.

PROGNOSIS.

Incurable *by art*, aneurism of internal vessels, and even the aorta, is occasionally cured *by nature*, from the coagulation of blood in the sac, and its ultimate conversion into a small dense tumeroid mass.

AUTOPSIIC APPEARANCES.

The artery having been ruptured, we discover the blood in one or more of the contiguous organs. The parietes may be found either attenuated or thickened. The rupture may occur from the tenuity of the parietes or from ulceration. When the aneurism is large, surrounding parts are removed by absorption, excited by the pressure. Even bone itself cannot resist. Ossification or other degenerations in other parts of the artery may be associated. The pulmonary artery is rarely affected.

PATHOLOGY.

From a loss of contractility, the pressure of the blood gives rise to permanent dilatation.

TREATMENT.

The plan suggested two hundred years ago by Valsalva, and which still receives the chief suffrage of the profession, is to bleed the patient very frequently and subject him to the most reductive regimen. But Dr. Chapman rejects the plan for the following reasons. 1. A cure being only effected by the retardation of the blood in the aneurism from the roughness of its interior surface, cannot be attained in true aneurisms, in which the lining membrane is smooth. But nine-tenths of the cases are true aneurism. It can, therefore, hardly be advisable to subject the patient to such harassing and deleterious measures, when, at best, there is hope in only one case in ten. 2. It does not appear that in the instances in which a cure has been spontaneously effected, the system has been remarkably low. 3. The result of excessive bleeding and inordinate abstinence is excitement rather than serenity of the circulation. 4. The blood becomes so impoverished that it is inadequate to the deposit of a coagulum. 5. The coats of the artery lose tone, and become, in consequence, still less able to resist the morbid process, by which the aneurism is formed.

In addition to the treatment mentioned, it is common for practitioners to rely upon the acetate of lead. But of this remedy Dr. Chapman is equally distrustful.

Discarding all expectation of a radical cure, he confines his efforts to the arrestation of the progress of the lesion, and to render it as tolerable as possible. These ends are accomplished by calming the circulation. For this purpose he resorts to venesection and purging, *when necessary*—digitalis in the intervals, a moderate amount of nutritious food, and the careful avoidance of constipation, exercise, and whatever else may excite the pulse. This treatment corresponds with that already suggested for several of the organic diseases of the heart.

INFLAMMATION OF THE VEINS, OR PHLEBITIS.

A DISEASE of recent investigation.

SYMPTOMS.

Exhibited in a superficial vessel, there is pain, vastly increased on pressure, with swelling, stiffness, and a streak of redness along its course. It is an affection proceeding nearly always in the direction of the heart. Constitutional disturbance is soon betrayed by febrile and other manifestations. Located in a limb, this may be more than double its natural size, while the skin is tight, smooth, and white. The fever may become exceedingly typhoid. There also exists chills or rigors, and rheumatic-like aches in the joints, or wandering about the cavities of the body.

The case above delineated is one of marked violence, which, unabated by our remedies, has progressed probably to the supuration of the vein. The description relates particularly to the phlebitis induced by venesection.

The disease called *phlegmasia alba dolens*, Dr. Chapman thinks has been improperly attributed to inflammation of the veins.

Deep-seated veins enjoy no immunity from such attacks; but of the symptoms by which their phlogosed condition is marked, we have no satisfactory knowledge.

Dr. Chapman is disposed to believe that the abscesses in the lungs, liver, and other parts of the body, which so frequently accompany phlebitis, are not, as is supposed, dependent upon

the deposit of pus, which has been secreted by the phlogosed vein, and transmitted with the current of blood, but that they are dependent upon the sympathetic irritation, by which abscesses are so often formed in low diseases.

C A U S E S.

Nearly always arises from mechanical injury. Dr. Chapman believes that it is never occasioned directly by a virus; thinking, however, that the vein may become involved in the condition of the adjacent tissues, when they are inflamed by the application of a virus. The instances of tumefaction from the insertion of a virus, he presumes to be an affection of the lymphatics.

There are certain times when phlebitis is particularly common. In certain constitutions, also, the slightest scratch will give rise to this result.

D I A G N O S I S.

Inflammation of the interior veins can never perhaps be certainly determined. The diagnosis from inflammation of the lymphatics, and of the cellular tissue, can only be made out, either before or after the period of excessive tumefaction; when the phlogosed vein may be perceived running in a tortuous course. During the height of this affection, or phlogosis of the lymphatics, the polished rotundity of surface, from an implication of the cellular tissue, is the same with that of *primary* inflammation of that tissue.

P R O G N O S I S.

Favourable when the disease is early attended to; the reverse when the inflammation has become intense.

A U T O P S I C A P P E A R A N C E S.

Redness of the vein in specks, or striated, or arborescent—continuous, or in patches; effusion of lymph, sometimes agglutinating the sides of the vessel; suppuration, and even ulceration.

Deposits, in various parts of the body, of pus, varying in size from a pea, to a large peach. The organ is usually found inflamed immediately around the deposit.

PATHOLOGY.

Dr. Chapman accounts for the constitutional disturbance which takes place before suppuration, by supposing that the whole venous system experiences a sympathetic irritation. Upon the occurrence of suppuration, we may suppose the diffusion of the pus by the current of blood, to operate in the production of the adynamic state, which characterizes a more advanced period of the disease.

TREATMENT.

The limb should be put into a state of **Absolute Rest**.

Venesection.—*Only when the febrile excitement is very high.* It is apt to be followed by a fresh attack of phlebitis.

Leeches.—To be repeatedly applied along the course of the vein.

Emollient Cataplasms.

A Blister.—*Of extraordinary value.* A narrow slip of the epispastic plaster should be placed along the course of the vein, as far as it appears inflamed, having an opening in it at the orifice, over which a soft poultice is to be placed; and the blister having drawn, is to be kept freely discharging.

Purgatives and Arterial Sedatives.

Calomel, Opium, and Ipecacuanha.—Dr. Chapman relies much upon the promotion, at this stage, of perspiration. Should pain and restlessness be prominent, he directs the Dover's powder largely.

Pus having formed, the best hope of preventing its transmission to the system is offered by the ligature of the vein; but this might do more harm than good; and it has never been tried. Compression of the vein to an extent that can be tolerated, or cutting the vein, is inadequate to arrest the blood.

DISEASES OF THE ALIMENTARY SYSTEM.

ACUTE INFLAMMATION OF THE THROAT.

THIS is generally most displayed in phlogosis of the tonsils. The latter has received the names of *cynanche tonsillaris*—*angina tonsillaris*—*tonsillitis*—and the common names, sore throat, and quinsy.

SYMPTOMS.

Fever, pain, huskiness, scriatus, increase of saliva, heavily coated tongue, and difficulty of deglutition. In addition, the uvula, palatine lining, eustachian tubes, and interior of the ear may become involved. Under such circumstances, there may be earache, and an inability to swallow or articulate. The inflammation may also extend to the tongue, pharynx, œsophagus, and larynx. Glossitis, or inflammation of the tongue, is evinced by ocular demonstration. In pharyngitis, and œsophagitis, there is pain on pressure, and regurgitation of whatever is attempted to be swallowed.

A person who has had several attacks of tonsillitis, may have it without any constitutional implication. This is true, also, when the habit is scrofulous. But, ordinarily, the disease soon terminates in resolution, suppuration, or induration. In some cases, the phlogosis is very superficial and diffusive, like that of erysipelas.

CAUSES.

Cold. The erysipelatous variety Dr. Chapman believes to proceed from gastric disorder.

Malignant or pellicular sore throat seems to be merely scarlatina, without the cutaneous eruption, and to the treatise on that subject the reader is referred.

PROGNOSIS.

Favourable. Death, however, may occur suddenly from suffocation.

TREATMENT.

The disease being yet in its *forming stage*, may be sometimes checked by a *gargle of the infusion of capsicum*, or a solution of salt in vinegar or brandy. The nitrate of silver, or burnt alum, is recommended. External rubefacients, and a flannel covering to the neck, should be also employed.

These measures failing, we may resort to

An Emetic.

A Purgative and subsequent laxatives.

Venesection, when required by great excitement.

Topical Bleeding.

Poultices.

Blisters, in violent cases.

Inhalations of heated vapour of water, or of water and vinegar.

Stimulating gargles should be withheld in the active stage.

Suppuration having occurred, as may be known by the yellowish appearance of the tumour, and the throbbings and the disposition to rigors, it will be right to *open the abscess*. Subsequently, the patient may use *mild gargles*.

In glossitis, pharyngitis, œsophagitis, or laryngitis, it is necessary to use depletory and other antiphlogistic measures with the greatest vigour. When the tongue is badly inflamed, the tension should be removed by deep incisions, and leeches may be applied to the lower surface. There being an abscess in the pharynx, or œsophagus, it may be ruptured by the *throat lancet* or the bougie, or by vomiting.

The *erysipelalous* variety is to be treated by an emetic, a mercurial purge, leeches, vesication, and detergent gargles.

A typhoid state supervening, as it is sometimes said to do, stimulants and the other treatment of malignant scarlatina may be required.

Torpid tumours are to be removed by the application of burnt alum, or by leeching, vesication, and discutient gargles.

Elongated uvula, when attenuated and relaxed, or when turgid with blood, or œdematous, should be treated with the application of burnt alum; but being intermediate to these conditions, with leeching and emetics.

Enlargement of the tonsils demands excision.

CHRONIC INFLAMMATION OF THE THROAT.

S Y M P T O M S.

PRIMARY.—Redness, diffused or in streaks or patches, and injection of vessels.

ADVANCED.—Ulceration.

C A U S E S.

The consequence of the ill-cured acute affection, of an original disease arising from the same causes with the acute, more slowly operating.

T R E A T M E N T.

Any activity of phlogosis existing, the means just indicated must be resorted to.

There being mere congestion, the vessels may be emptied by local bleeding and vesication; and the part may then be subjected to astringent or tonic applications. Ulcerations should be touched with lunar caustic, or treated with gargles. *Black was*

The disease depending upon constitutional vitiation, the treatment will, of course, depend upon the peculiar nature of that vitiation. Yet, in general, it may be said that an alterative course of blue pill, moderate purging, an occasional emetic when the ulcers are very foul, or the general secretions depraved or defective, and sarsaparilla, are valuable remedies.

There is a condition in which, with dryness and huskiness of the fauces, slight teasing cough, and hawkings, the throat is pallid and relaxed, but the constitution is sound. Dr. Chapman believing this state to result from defective innervation, directs topical bleeding and counter-irritation to the back of the neck, and seldom fails in curing it.

DYSPHAGIA, OR DIFFICULTY OF SWALLOWING.

THIS may result, first, from organic disease of some kind, or, secondly, from disorder of the cerebro-spinal axis, either original, or the result of irritations in the alimentary canal, or elsewhere. The treatment of the second variety, is to remove these irritations when they exist; to employ local bleeding and counter-irritation to the back of the neck, nauseants in some instances, the cautious administration of mercury with a view to its constitutional effect, when there is a state of excitement, but dry cups, counter-irritants, antispasmodics, and tonics, when there is a state of enervation. Spasmodic stricture of the œsophagus may be distinguished from organic, by observing that it is sometimes remitted, and especially upon the introduction of a bougie.

The œsophagus is subject to chronic inflammation and ulceration. But these incidents are very rare.

CHRONIC GLOSSITIS.

This is connected with enlargement. It may terminate in resolution, suppuration, or ulceration. Similar enlargement of the lips may be conjoined. The treatment consists in correcting the depravation of the digestive and nutritive organs, on which the disease usually depends, or whatever constitutional vitiation may exist; repeated leeching; poultices to the lips, when affected, and the liberal exhibition of cicuta. This state is sometimes a *scrofulous* disorder.

INFLAMMATION OF THE PAROTID, OR MUMPS.

MAY be either common or specific. The latter form, called cynanche parotidea, parotitis, or mumps. The former variety so nearly resembles tonsillitis in nature and treatment as to preclude the necessity of distinct description.

Parotitis is exhibited by a pain and swelling in one or both parotid glands, involving the submaxillary, and accompanied by fever. It is subject to metastasis to the testis in males, and the mamma in females.

CAUSES.

An epidemic influence, or perhaps contagion. It resembles contagious diseases, certainly, in there being an immunity against a second attack.

DIAGNOSIS.

Differs from ordinary inflammation of the parotid, in the greater rapidity of swelling, the tendency to spontaneous subsidence, the difficulty of mastication, and the peculiar painfulness in masticating sweet substances—in a more general constitutional disturbance, its disposition to metastasis, and its usually prevailing epidemically.

PROGNOSIS.

Not serious except when metastatic. It is milder and less prone to metastasis in early life.

TREATMENT.

In mild cases, the patient should keep within-doors, protect the tumour by a flannel bandage, take a laxative, and restrict his diet. The part may be bathed with a lotion of laudanum, sweet oil, and brandy.

But in violent instances, the antiphlogistic system should be fully carried out. The influence of cold must be carefully guarded against.

Driven to the testicle, it may create much pain, swelling, fever, and even delirium, The testicle may also in consequence entirely waste away. We should encourage a return to the parotid by moderate warmth, and treat the disease as *hernia humoralis*,—that is, by common depletory and sedative measures, and when the stomach is much disordered, by an emetic.

When metastasis to the mamma has taken place, we should adopt a similar practice. Should it become inveterate, we may direct the frequent application of leeches, mild discutients, a low vegetable diet, an alterative course of mercury, and a succession of emetics. The affection may degenerate into scirrhus.

DYSENTERIA OR DYSENTERY.

INFLAMMATORY FORM.

SYMPTOMS.

THAT variety arising from cold, so nearly resembles colitis, already described, as to require no further exhibition.

INCEPTIVE.—An attack in warm weather is usually introduced by anorexia, epigastric fulness, furred tongue, thirst, bitter taste, nausea, and sometimes vomiting, uneasiness in the abdomen, dry skin, muscular soreness and debility; or it is introduced directly by a chill and fever.

MORE ADVANCED.—After the constitutional disturbance, follow griping, and a propensity to go to stool; large, feculent, or watery discharges for a time, and then small ones, consisting of mucus only, or tinged with blood; a sense of weight or dragging in the lower part of the abdomen; and either fugitive pain, or permanent tenderness.

But often the local affection supervenes first; and the system may sympathize very little throughout the case,—certainly not to the extent of a fever.

STILL MORE ADVANCED.—Stools more frequent, and painful; every evacuation being attended with an aggravation of tormina and tenesmus, and a good deal of borborygmi or rumbling from flatulence. Occasional prolapsus of the intestine. The discharges sometimes become like cheese; or they may be purely hæmorrhagic. Again, there may be evacuated a sub-

stance like flesh, composed of coagulable lymph, or impacted mucus reddened with blood; or matter resembling the mucous coat of the bowels. The scybalæ, which are in some instances discharged, consist of hardened balls of fæces. Little or no bile is ever apparent in the stools. Although there be fever, the pulse is seldom full or active, however tense and corded it may be.

FINAL STAGE.—A depression of strength; cold skin; sometimes, petechiæ, or vibices; great soreness and tension of the epigastrium; feeble pulse; a singularly altered, and often corpse-like countenance.

These symptoms may be varied by a concentration of the disease in a particular section of the bowels, or a particular coat, or by the complication of other affections.

C A U S E S.

Dysentery was once ascribed almost exclusively to contagion. The notion of its ordinary production in this way is now pretty much abandoned. But this question will be discussed in the consideration of the congestive form of the disease.

Miasmata, an excess of heat, sudden variations of temperature; a damp, heavy, murky atmosphere; a calcareous soil, epidemic influence, and checked perspiration, by whatever cause produced. Certain ingesta, among which may be mentioned crude fruit, and unwholesome vegetables, and particularly, putrid or spoiled aliment. A sudden change from an animal to vegetable diet, or the reverse; or from salted to fresh provisions, or the opposite. Acid beverages, stagnant water.

With us, dysentery is mostly a disease of the country; and of simultaneous prevalence with autumnal fevers,—the former occurring in high situations, and the latter in the contiguous low grounds.

D I A G N O S I S.

The only disease with which dysentery is liable to be con-

founded, is diarrhœa; and here the treatment is so similar, that the discrimination is unimportant.

PROGNOSIS.

As the case is open and inflammatory, with a warm surface, and an active circulation, so will it prove manageable.

FAVOURABLE SIGNS, are a discharge of mucus, or a moderate discharge of arterial blood at an early stage, *bilious and natural stools, &c.*

There is a well-authenticated case, and another which has been seen by Dr. Chapman himself, in which recovery took place after the sloughing off of a large portion of intestine, which was evacuated.

It is a most intractable disease, and when permitted to run to a far advanced stage, is very apt to prove fatal.

AUTOPSIIC APPEARANCES.

Very similar to those already described as belonging to enteritis.

The lesions are chiefly seated in the mucous coat of the large intestines, and, above all, the colon. The other coats are comparatively little affected. In hot countries most of the abdominal viscera are apt to share in the disease. The liver is especially apt to be congested, and may be structurally affected.

PATHOLOGY.

Dysentery of the form now under consideration, is evidently an inflammation of the mucous tissue of the primæ viæ, particularly of the large intestines. So long as it is insulated in the mucous tissue, there is prostration of strength, and discharges of mucus, variously coloured, or otherwise changed, with little or no pain. Extending to the muscular coat, tormina and tenesmus are induced; and the darting, lancinating pain must be ascribed to an extension to the peritoneal coat.

The skin being robbed of its fair proportion of excitement by the irritation of the interior, becomes cold and collapsed, until reaction takes place. Yet it finally relapses, when the case does not proceed well, into its former condition.

The sympathetic fever is sometimes intermittent, though oftener remittent, or continued.

The difference between dysentery and colitis, is like that between gastric fevers and a gastritis. The former is a general, proceeding from a local affection; the latter is the same local affection unaccompanied by the general disorder. Dysentery is connected with greater depravation of the secretions.

T R E A T M E N T.

In the form now before us, we are called on mainly to remove inflammation with the spasm attending it, to procure a free evacuation of the alimentary canal, and restore the healthy secretions of it, the liver and the skin.

Venesection.—When febrile reaction has taken place. It must be very free, or it will be nugatory. It must be, however, early resorted to, or it will not be admissible. The phlogosis of the mucous membrane of the large intestines is particularly rapid, and is prone to proceed very speedily to fatal disorganizations. Even within twenty-four hours, such changes may be wrought, as will forbid the use of the lancet.

Leeches.

Warm Fomentations, or Poultices.—Some recommend Cold applications. Those may be used which, upon a trial, suit the patient best; Dr. Chapman, however, has not employed the cold, except in hæmorrhagic cases.

Emetics.—Dr. Chapman limits their employment to those instances in which there is a stomach loaded with irritating ingesta, or secretions, and here even, to the inchoative stage. Yet, when there is no active phlogosis of the stomach, he does not condemn their use on other occasions, since he has not had much experience with them, except when given in the circumstances just mentioned. Zimmerman resorted to them often, during the course of the affection.

Ipecacuanha has been employed in the dose of a drachm, or more ; and for the prevention of vomiting, it is given in union with sixty drops of laudanum, and the supine position is maintained. Its beneficial effects are said to be very striking. Dr. Chapman, however, reposes little faith in the practice.

Purgatives, to cleanse the bowels of their oppressive or irritating contents. Castor oil is usually preferred, and may answer in the lenient forms of the disease. But to the dysenteries of warm weather, mercurial purges are much better suited. It is well, sometimes, to combine the calomel with opium and ipecacuanha, by which the irritation is mitigated.

Evacuations having now been freely made, we may substitute for calomel, the oil, or what sometimes answers better, the sulphate of magnesia.

Gamboge has been affirmed, on the ground of experience, to be a useful purgative. Cheyne also ascribes great efficacy to half an ounce of finely levigated cremor tartar, repeated every four or five hours.

Even the mildest purgative sometimes excites the most distressing spasm, or, from an exaltation of nervous irritability, passes directly through the bowels. Here an opiate should be conjoined, which really assists in the removal of irritating collections, and renders the discharge less painful.

It is a good general rule, to proceed with purgation until natural, or, at least, essentially improved stools are manifested. It is easy to conceive how exceedingly annoying must be the acrid secretions which are incident to the affection. Still these very secretions are liable to be sustained by the irritation of our purgatives. The rule is, therefore, limited.

Opiates.—To obviate irritation, Dr. Chapman is accustomed to resort much earlier to the use of opiates, than is generally approved. Enlarged experience, however, has confirmed him in their early use. Having, in part, the wish to produce a determination to the skin, he commonly directs opium in combination with calomel and ipecacuanha, by which its virtues are much enhanced.

It is a good plan to give laxatives during the day, and opiates at night.

Coming to the conclusion that purgatives have been carried sufficiently far, we may resort, during the day, to a union of opium, ipecacuanha, and the blue mass. The usual effect of this is to give great comfort, and to restore the healthy secretions of the intestines, skin, and liver. Yet when there is a predominance of tormina and tenesmus, and especially if attended with discharges of blood, pure or mixed with mucus, the opium may be more advantageously combined with the acetate of lead.

Either of the preceding prescriptions, however, being given, an intermission is required occasionally, perhaps once in twenty-four hours, for the operation of some mild laxative.

The following prescription, called the *oleaginous mixture*, is much used as a laxative, in such cases :

R.—Ol. Ricini, ℥j.

Gum. Arab. ℥j.

Sacchar. Alb. ℥j.

Tinct. Opii, gttss. xl.

Aq. Menth. ℥iij. *℥iij vel ℥iv*

M. ℥ss. may be occasionally taken.

In dysentery, particularly when it is seated chiefly in the rectum, injections of laudanum and mucilage will be very beneficial. A suppository of two or three grains of opium will sometimes be better retained.

Tobacco injections and fomentations have been recommended. The former may be made of the strength of ten grains to six ounces of hot water—the whole of which may be injected. We ought to be very careful in the use of tobacco, on account of its sometimes fatally depressing effects.

Cold barley water, or flaxseed mucilage, or melted lard, are very serviceable injections. Some prefer ice-water, which might well suit hæmorrhagic cases. These are also well treated with the solution of acetate of lead.

But, above all, Dr. Chapman recommends leeching around the verge of the anus, as being the best of all local measures, to relieve the pain and spasm.

Active Sweating.—This, after the employment of due san-

X R. Tinct. Opii. gtt. X L.
~~*℥iij. ℥iij. ℥iij.*~~
Gum. Arab. ℥j.
Sacchar. Alb. ℥j.
Tinct. Opii. gtt. xl.
Aq. Menth. ℥iij. ℥iij vel ℥iv

guineous and other depletion, may be properly effected by the administration of the Dover's powder, and vapour bath.

A Flannel Bandage from the hips to the axillæ, has been said to be beneficial.

Blisters.—The activity of the phlogosis having been decidedly subdued, these become quite useful. The skin having been reddened by the blister, the latter may be taken off, and a poultice substituted.

Upon the occurrence of a sinking state, those stimulating remedies may be resorted to, which will be mentioned in the consideration of the congestive form.

DIET.—Should consist exclusively of the mucilages.

CONGESTIVE OR TYPHOID DYSENTERY.

SYMPTOMS.

THE most prominent feature of this form is a want of reaction. The skin continues cold, damp, and mottled, or, as may happen, partially dry and heated; the tongue loaded and dark; and there is much gastric, and occasionally some cerebral disorder.

Contracted under peculiar circumstances, the disease has received a modification partaking of the nature of scurvy. To many of the symptoms already detailed, are here added soft, spongy, livid gums, occasionally so ulcerated, that the teeth become loose and fall out; the lips and mouth are livid, and the breath fœtid; while, more or less, over the whole body, though particularly on the extremities, large blue or purple spots are dispersed.

CAUSES.

The congestive species of the affection is principally met with in crowded, ill-ventilated places,—as in ships, hospitals, prisons, besieged towns, and camps.

The cause to which, when thus appearing, it is generally assigned, is contagion. The effluvium is by some supposed to spring *immediately* from the excrementitious discharges; while others suppose it to be the product of their putrefaction. There seems to be, however, no substantial demonstration of the truth of either of these theories. The probability is, that typhoid dysentery is the result of a contaminated atmosphere,

acting at a time when there is a predisposition to dysenteric disease.

Other causes are, epidemic influences, and those causes already enumerated as productive of the inflammatory variety.

PROGNOSIS.

Sometimes extremely intractable, and fatal.

AUTOPSIIC APPEARANCES.

Generally, in place of the marks of active phlogosis, we meet with turgescency of the vessels of the intestines, with ecchymosis and softening of the mucous tissue, and perhaps gangrene of all the coats. Various other abdominal viscera are frequently involved, and sometimes the brain.

PATHOLOGY.

The peculiarity evidently consists in there being, instead of an actively inflammatory state, a congestive condition, with a tendency to rapid disorganization.

TREATMENT.

A low, collapsed state existing, the skin is to be excited by the Vapour Bath, Stimulating Frictions, Sinapisms, &c.

Venesection.—Indicated by an increased warmth of skin, a rising of the pulse, and particularly by *acuteness of pain*.

Cups, or Leeches.—These may be used where venesection is inadmissible, and are our chief dependence for overcoming congestion. *Leeches around the anus* are highly useful, especially when there are large sanguineous stools.

Emetics.—Well suited to this form, even when the stomach is not loaded with irritating contents. The best of the class is the chloride of sodium.

Mercury.—It is the custom in India to rely much upon the production of ptyalism. With this view some practitioners

there, give it in the dose of a scruple several times a day. Dr. Chapman, however, usually directs one or more ordinary doses of calomel, according to the urgency of the occasion, to be hastened in their operation by the castor oil, or neutral salts, and then a combination of it with opium and ipecacuanha, in small and repeated doses. Now and then, he recurs to enemata and the other palliatives of suffering enumerated under the *Inflammatory Form*.

Blisters.—To the abdomen, and extremities.

Stimulant Diaphoretics here promise a great deal.

More stimulating remedies may be henceforward demanded. Among these may be mentioned the carbonate of ammonia, the spiced wine, and oil of turpentine, which last is to be preferred in the passive hæmorrhage incident to the disease. Other remedies are the sulphate of quinia, charcoal to correct the fœtor, infusion of capsicum by mouth, and by enema, and the nitric or nitro-muriatic acid in the scorbutic variety. X

DIET.—In the early stage, should be like that in the inflammatory form; but when debility of the vital forces has supervened, to the farinaceous articles may be added, wine, chicken, mutton, or beef tea.

An intermittent is sometimes conjoined with dysentery. The best plan, here, is to neglect the former until the latter is reduced. The same principle holds in the complication of dysentery with rheumatism, and some other diseases. But it is here supposed that the bowel affection is strictly inflammatory. In the low forms, the quinine might be adapted to both complaints.

Hooper's Mixture —
 + Camph. Emulsion ℥viii
 Nitrous acid ℥i
 Tinct. Opii — ~~℥i~~ q. s. ad ℥.
 M. ft. S. One ounce to be given
 every two or three hours. For Chronic
 Dysentery also as well as Typhoid.

DIARRHŒA, ALVI FLUXUS.

DEFINITION.—Any affection where the contents of the bowels, in a fluid or thin state, are too frequently discharged. *This appellation is objectionable*, as not expressing the pathological condition.

SYMPTOMS.

If the case proceed from offensive ingesta, nausea or vomiting: surface cold and pallid, and pulse feeble. Sometimes approaches as a febrile affection, commencing with anorexia, foul tongue, chilliness and flushings, a quick, tense, irritated pulse, and dry skin.

The bowels flatulent, rumbling; sometimes tormina and tenesmus, with a sense of weight and distension.

The *stools* are thin and watery, or thick and tenacious, glutinous or jelly-like, consisting of slime or mucus, and of an ochreous, or clayish, or ashy, or slaty, or yellow, or green, or blue, or dark, or pale, or of a milky appearance, or purely bilious. When milky, falsely supposed to contain chyle, and hence the term *Diarrhœa chylosa*. The discharge of bile, not strictly diarrhœa. Or the discharges may be ingesta, fluid or solid, passed out unaltered, and then called *Lientery*.

CAUSES.

Irritating ingesta, cathartics urged to excess, constipation, cold, heat, putrid exhalations, mental emotions, dentition.

DIAGNOSIS.

Resembles dysentery, and differs from it only in degree.

PROGNOSIS.

Favourable. When chronic it may run into dysentery.

AUTOPSIIC APPEARANCES.

Slight phlogosis or congestion of the mucous membrane of the large intestines, or softening, or enlarged follicles; or the membrane pale, relaxed, and flaccid.

PATHOLOGY.

Diarrhœa is a mitigated *Dysentery*. In diarrhœa there is more of irritation than inflammation. It is seated in the mucous coat. The irritation may be of the exhalant vessels, or of the mucous follicles, or both. When caused by cold, it is purely catarrhal, or consists in a transfer of function from the skin to the mucous membrane. The irritation extending to the liver, we have bilious discharges, or a suppression of bile. *Lientery* is referable to a high grade of irritability throughout the whole of the alimentary canal.

The immediate *seat* of the affection is generally in the large intestines.

TREATMENT.

Caused by *ingesta*, an
 Emetic, followed by
 Rhubarb, or Magnesia, or Castor Oil. Should there be
fever,
 Venesection, and a
 Mild Diaphoretic mixture, of which an

Opiate is the basis. If caused by a checked perspiration, reinstate the function of the skin, by a

Pediluvium, or general Bath, followed by combinations of ipecacuanha and opium, e. g.,

Dover's Powder. *Lientery* is best managed by an

Opiate, with astringents or absorbents, such as the cretaceous preparations, in connexion with local bleedings and counter-irritation. The *liver* being implicated, a resort may be had to

Mercury.

DIET.—Same rules as in dysentery.

CHOLERA MORBUS.

DERIVATION of this name, from $\chiολη$, *bile*, and $ῥέω$, *to flow*, and *morbis*, disease,—meaning a bile flux. This name inapplicable, as an excess of bile is rare, and the discharge is only a symptom.

The disease recognised by ancient writers. Hippocrates alludes to it.

SYMPTOMS.

VIOLENT FORM.—Great variations in degree of violence. An attack usually comes on suddenly, or with little premonition. The earliest affections are soreness, and distension over the abdomen; fulness, tensive uneasiness, and oppression at the epigastrium, with borborygmi and twisting, colicky pain about the umbilicus—ejections of the contents of the stomach, mixed with a watery fluid or ropy mucus, and morbid secretions, of different hues, cramps and pain in the back. Discharges from the bowels, watery. Bile, rarely evacuated.

During the intervals of vomiting, there are nausea, thirst, and wretchedness. As the case proceeds, the evacuations upwards and downwards recur more frequently, the cramp and spasms are exasperated, the trunk is rigid, fingers clenched, the extremities distorted, constituting a tetanoid condition. In the interval of the paroxysms, exhaustion, confusion, noises in the ears, or deafness.

The pulse throughout feeble, henceforward more so—increased depression of strength—cold, damp, collapsed surface—haggard countenance—burning in the stomach or at the umbilicus—desire for cold drinks—tongue moist, white, or milky—pukings

and purgings more frequent and copious, of a fluid resembling greasy or dirty water, or like coffee-grounds, or the settlings of port wine—scanty or suppressed urination.

Hereafter, there is a rapid sinking, approach to exhaustion—pulse tremulous, thready, hardly perceptible—extreme jactitation continues—muttering delirium—low, stammering, sepulchral voice—the skin cold—lividness of the countenance, fingers, and nails—impeded, anxious respiration, singultus, sunken eyes, hollow cheeks, and purple or pallid shrivelled lips. (This account was written before Dr. Chapman had any knowledge of epidemic cholera.)

MILDER AND MORE ORDINARY FORM. — Commences with sickness of stomach, flatulence, puking and purging of watery fluid, cold damp skin, weak pulse, cramp of the bowels, and sometimes of the extremities.

Cholera is incident, chiefly, to close, sultry, autumnal weather; occurring, however, sporadically, at all seasons, and in every climate. Endemic in our foggy, marshy districts, and portions of the India Peninsula.

C A U S E S.

Paludal exhalations, putrid animal effluvia:—oftener traced to cold or moisture succeeding to heat or dryness, to exposure to the sun, to a draft of air, to dampness or coldness of the night, to sleeping with open windows, to wearing thin apparel, entering cellars, or to whatever checks perspiration. Also, excited by offensive ingesta, by crude, unripe fruits, or raw, or imperfectly cooked vegetables; by tainted shell-fish, by a debauch in eating or drinking; by poisonous matters, as copper or arsenic; by harsh emetics or purgatives, or by fatigue. It is induced by passion, by grief or terror.

Cholera prevails as an *epidemic*. It broke out in India in 1817, and has since spread over Europe and this country, visiting, indeed, nearly the whole world. The true explanation of its origin is to be sought in an epidemic influence.

James' Medical Dictionary published about one hundred years ago is a very valuable service work. Chapman, P. 5

DIAGNOSIS.

Cholera may be distinguished from colic, by the absence of constipation; from diarrhœa and dysentery, by more severity of spasm, and by the evacuations being unmixed with bilious or bloody matters.

PROGNOSIS.

The issue is uncertain.

FAVOURABLE SYMPTOMS.—Subsidence of cramps, and of the turbulent state of the alimentary canal; bilious evacuations, rising of the pulse, restoration of temperature, genial moisture of the surface, undisturbed sleep.

UNFAVOURABLE SYMPTOMS.—Extreme reduction of the pulse, prostration of strength, short, hurried respiration, coldness of the surface, clammy sweats, livid lips or fingers, tumid abdomen, watery, greasy, and dark flocculose discharges, suppression of urine, hiccup, haggard countenance, delirium.

AUTOPSIIC APPEARANCES.

The stomach and bowels relaxed, flaccid, pale; the latter contracted, convoluted, or twisted, or vessels turgid, or phlogosis. Congestion of the liver, and of the other abdominal viscera. The lungs sometimes engorged, and also the brain. The head contains thick, viscid, black blood, and the blood drawn is of a similar appearance.

PATHOLOGY.

The primary irritation commences in the stomach, and, by sympathy, extends to other organs. In proof of this, the causes act primarily on the stomach, and the first ejections by vomiting consist merely of the contents of the stomach. Bile is not thrown

up, before the biliary organs are secondarily affected. The liver being thus affected, it is stimulated to increased efforts, and we have the bilious discharges. But in a short time the energies of the stomach give way. The liver, sharing in this debility, is unable to return the blood which rushes into it, and engorgement and suppression of the hepatic secretion take place. These views are sustained by the history of the causes of the disease, its symptoms, the phenomena on dissection, and the method of cure, and by the fact that the disease may be imitated by certain irritations of the stomach. The change in the blood is secondary, and this change, as well as every other link in the series of events constituting the disease, is referable to the impressions on the stomach, and through it on the ganglionic nerves, and thence to the spinal marrow and brain. The *state* of the mucous surface of the digestive tube, varies in different cases and stages. At first merely irritation of the exhalants, though subsequently inflammation may ensue.

TREATMENT.

The *indication* is, the removal of the gastric irritation. To accomplish which, must first be removed, the irritating contents of the stomach—

By an *Emetic*,—*ipecacuanha*, gr. xx., promoted by warm water, the stomach is tranquillized, spasm overcome, congestion removed, the balance in the circulation restored, and the system emerges from prostration. An emetic might be hazardous or inadmissible in extreme prostration, nor is it always demanded.

No offensive matter existing in the stomach, the indication is to calm irritation, and subdue spasmodic pain and turbulence.

Combinations with *Opium*, e. g., potash mixture with laudanum, spirits of camphor, or camphor water, with nitrous acid, laudanum, and acetate of lead, and opium. Laudanum, opium, or old opium pill. Calomel, in doses of gr. viij. to gr. x., sometimes.

If the stomach reject all these, an *anodyne enema*, or the *endermic use of morphia*.

Cups or Leeches.—A sinapism over the epigastrium, and the latter to lower extremities.

If heavy congestion exist, **Venesection**, guided by the pain and constitutional vigour, even if the pulse be very low, drawing blood slowly. In doubtful cases, topical bleeding from the abdomen or spine, if pain in it, or spasm; preceded by sinapism, warm, or vapour bath, hot fomentations and frictions.

The disease soon may reach a stage requiring *stimulants*.

1st. **EXTERNAL.**—Sinapism, blisters, dry heat, rubefacient frictions.

2d. **INTERNAL REMEDIES.**—Liquor ammoniæ, solution of camphor in ether, spirits of turpentine, tinct. of capsicum, hot toddy, *mint julep*, and

Opium.—When not forbidden by cerebral disturbance.

To suspend the retchings and spasms, **Tourniquets** to the arm and thigh of opposite sides.

Strapping the patient to a board in the horizontal position, said to suspend vomiting, and aid the retention of remedies.

As soon as the stomach becomes retentive, **Purges** are usually required.

Calomel in large doses, or castor oil or other laxatives, and afterwards, if the secretions be deficient, recur to calomel in small doses, alone or with opium.

REGIMEN.—No food; *drinks*, cold lemonade, cold water, or ice. Chicken water as soon as the stomach will bear it.

CHOLERA INFANTUM.

THIS disease of children is perhaps peculiar to the United States.

The period of its greatest prevalence is between the ages of twelve and eighteen months. It mostly begins among us in July, and continues till the accession of frost. It may, from its destructiveness, be called the scourge of children.

Its popular name is the *Summer Complaint*.

SYMPTOMS.

It may approach like a dysentery, though sometimes its commencement more nearly resembles a cholera morbus. Its most common and characteristic presentation, however, is that of gastro-enteritis, in every gradation of violence, from simple irritation to the most intense phlogosis. Cerebral affection is sometimes early manifested in a tendency to delirium or stupor.

The fever, when confirmed, is of an irregular remittent type. The desire for drinks is now unquenchable.

The evacuations are watery, or slimy, or mucoid, or like coffee-grounds, or deep green, or of a colourless fluid, leaving a pink margin around the soiled portion of the napkin. They have usually a sour or putrid odour. Great irritability of the alimentary canal existing, the ingesta pass off immediately, as in lientery.

When the attack runs a lengthened course, few diseases exhibit more emaciation, or greater alteration of condition and aspect.

The alvine discharges sometimes, at this period, amount to forty or fifty in the twenty-four hours.

Towards death, the face and belly may become bloated, the feet œdematous, and the mouth sprinkled with aphthæ. The mental faculties and senses are apt to become extremely torpid.

This protracted form of the disease may continue five or six weeks.

CAUSES.

Exclusively incident to children, and almost so to those living in cities.

Damp, murky weather, is favourable to the origination of the disease.

Exciting causes are improprieties in diet or clothing, teething, worms, and premature weaning.

DIAGNOSIS.

The affection may in general be easily recognised. Should it be confounded with diarrhœa, dysentery, or cholera morbus, it will probably, in such cases, be essentially the same with these diseases, and exact no difference of treatment. Even when mistaken for the common irritation of teething, the treatment is so analogous, that nicety of discrimination is not required.

PROGNOSIS.

A prognosis is very hazardous, since the most favourably looking cases are apt to terminate fatally, and *vice versa*. The chances, however, are vastly greater, other things being equal, when a free ventilation is commanded.

The appearance of dark bilious or natural stools, is a most propitious sign.

Among other unfavourable signs, too obvious in their character to be here mentioned, may be stated the purging of a pink-coloured fluid, or the fluid which leaves a pink stain around the soiled part of the napkin. This is an almost certain indication of death.

AUTOPSIIC APPEARANCES.

The brain in recent cases presents only slight venous congestion, or where cerebral excitement has existed, phlogosis of the membranes. But in protracted cases, effusions are often observable.

In the alimentary canal, especially the upper part, we have the evidences of inflammation, and often contortion and intorsions of the intestines.

The peritoneum may exhibit a morbid appearance, and effusion in its cavity. The liver, in cases of long continuance, is in some instances so much hypertrophied, as to occupy two-thirds of the abdominal cavity. On the contrary, it has appeared atrophied, and the spleen correspondently augmented.

PATHOLOGY.

The disease, in its most familiar presentation, is a gastro-enteric affection, soon involving the liver. The excitement of the stomach and intestines, being communicated to the liver, produces at first an increased flow of bile; but the liver being long subjected to this high action, becomes exhausted, and its secretory power suspended. But in other cases, the inceptive impression is so strong, that the secretion of bile is at once arrested, and a lientery, perhaps, succeeds. The brain, and system in general, become soon involved in the play of sympathies.

TREATMENT.

1. The attack being of a dysenteric nature, Castor Oil and Laudanum are well adapted to its cure.
2. But *simulating cholera morbus*, it is proper to begin with

An Emetic; this will clear the stomach of its irritating contents, check vomiting, and create a tendency of blood and nervous excitement to the surface.

The other treatment consists of the
 Warm Bath,
 Frictions and Sinapisms, and above all,
 Opiate Enemata.

To quiet the stomach, when exceedingly irritated, may become a leading indication.

3. We come now to the legitimate or ordinary form of the affection, which has been stated to be a gastro-enteritis.

Best is it, when reaction is not complete, to resort to the
 Warm Bath, and a
 Sinapism over the Stomach.

Febrile excitement, however, being developed, the measures are,

Venesection in some cases;

Leeching at the epigastrium may generally supersede venesection.

Cold Applications to the Scalp, leeching to the back of the neck, or behind the ears, and a moderate stimulation of the lower extremities, when there is a tendency to hydrocephalus.

The continual purging which some practitioners employ in this and other bowel affections, is a great curse. Vitiated secretions are merely the effect of the intestinal irritation.

Phlogosis having been reduced, and moderate evacuations having been premised, Dr. Chapman is accustomed to direct

A Combination of Opium, Ipecacuanha, and Calomel.

This prescription is as follows.

R.—Calomel, gr. iij.
 Ipecac. gr. ij.
 Gum. Acac. xx.
 Pulv. Opii. gr. $\frac{1}{4}$
 M. et in pulv. vj. div.

Of these, one powder may, on an average, be given every two hours.

An occasional dose of the *oleaginous mixture* may be necessary for the removal of acrid colluvies.

The Warm Bath.—To promote determination to the sur-

face, the head and belly being hot, and the feet cold, it will be better to employ a stimulating pediluvium, and apply cold to the heated parts.

Blisters to the extremities fulfil the same indication.

Should cholera infantum have passed by bad treatment into a diarrhœa, the *cretaceous preparations* and *opiates* become suitable.

X When the diarrhœa has become purely chronic and colliquative, the *astringents* and *tonics* are indicated. But before making use of these remedies, we should be sure there is neither phlogosis of the intestines, nor congestion of the liver. The existence of the former demands the *mildest anodynes*, and that of the latter, *mercury and opium*.

The discharges, however, being gleety and glairy, instead of serous, the balsams and terebinthines should be preferred.

Anodyne Enemata are as well suited to the mucous as the watery evacuations, and particularly when there are tormina and tenesmus.

A *flannel roller* around the abdomen has been productive of signal utility.

REGIMEN.—In the early stage, when there is much gastric disturbance, milk is apt to form tough clots, and severely aggravate the inflammation. The mucilaginous drinks should therefore be substituted.

But when this acid condition of the stomach subsides, then nothing is so well adapted as human milk. At a later period, sago, tapioca, and other farinaceous articles may be preferable.

Extreme debility supervening, a little ham may be allowed. But the best restorative is **COUNTRY AIR**.—Dr. Chapman gives the following rules for prevention:

1. Never permit a child to be weaned within the year.
2. Let the cold bath be daily used.
3. Direct the use of flannel next to the skin, and worsted stockings.
4. Let the child be fed on milk with the farinaceous articles;

Handwritten notes:
 S. Sulph. Acid, ʒi. } A tea-spoonful
 Sac. Alb. ʒi. } three or four times
 Azac. Acid. ʒi. } daily.
 R. pt. Solution of

and after the sixth or eighth month, it may be accustomed to the use of weak broth without spice.

5. During dentition, lance the gum whenever it begins to swell.

6. Above all, let the child, when practicable, be removed to the country, early in the season, and there remain until the return of cool weather.

COLICA, OR COLIC.

OF this affection, Dr. Chapman makes three divisions.—1. Crapulent or Flatulent Colic. 2. Bilious Colic. 3. Saturnine Colic.

FLATULENT COLIC.

Much of what is said of this form, equally applies to the two others.

SYMPTOMS.

Sickness of stomach; spasmodic pains; flatulent distension, borborygmi, twisting around the navel, and occasionally cramps of the abdominal muscles, and of those of the lower extremities, and unrelenting constipation. The vomiting is sometimes violent, the substance discharged may finally be stercoraceous. The pulse, at first little changed, soon becomes feeble and diminutive, and the surface cold. Should inflammation occur, the pulse is hard and corded, the temperature of the body very unequal, and the abdomen tender.

If relief be not afforded, this state is succeeded by a return of the diminutive pulse, cold damp skin, abatement, or cessation of the pain, a haggard countenance, singultus, and the other signs of approaching dissolution.

CAUSES.

Indigestible articles of food; the vinous or alcoholic liquors; collections of indurated fæces.

Exposure to cold, and particularly when followed by a meal during the chill. Sympathy with distant parts. Lesions of the spinal marrow.

The stomach and intestines sometimes acquire an extraordinary irritability.

DIAGNOSIS.

To distinguish the stercoraceous vomiting proceeding from an introsusception of the intestine, from that proceeding from an inverted peristaltic action without an introsusception, is impossible.

Colic is diagnosticated from enteritis by the paroxysmal and spasmodic nature of the pain, the relief at first afforded on pressure, and by the flatulence and correspondent intumescence.

But to hernia, it is very analogous, both in the early and late stages. In doubtful cases, an examination should always be made.

PROGNOSIS.

Colic is for the most part easily managed. The ejection of stercoraceous matter is an almost fatal sign.

AUTOPSIIC APPEARANCES.

The intestine distended with flatus, ingesta, or fæces. It is sometimes alternately contracted and dilated, exhibiting a series of pouches.

The case being of long continuance, with manifestation of spasm, we meet with the marks of phlogosis, and occasionally with introsusceptions. The last are sometimes accompanied with gangrene, though more generally by no lesion whatever. Many of them are probably formed at the point of death. They occur chiefly in the ileum. The upper is mostly received into the lower portion. Knots in the intestine are also sometimes formed.

The stomach occasionally participates in the spasm, and it,

together with the parietal peritoneum and liver, may be found in a state of phlogosis.

P A T H O L O G Y.

The disease may be seated in any portion of the alimentary canal; though its principal location is about the ileo-cæcal valve.

Commencing in simple spasm of the muscular coat, it invariably terminates, if long continued, in phlogosis. This may be confined to the muscular tissue, or it may involve the others.

The pain has been generally attributed to spasm, but more correctly to the flatulent distension.

The immense formations of gas, are ascribable in some instances to the decomposition of the intestinal contents, and in others, to its secretion by the mucous membrane.

T R E A T M E N T.

The colic arising from offensive matter in the stomach, it should be removed by an Emetic. An attempt should next be made to subdue pain and calm irritation by the cordial, carminative, and anodyne preparations, such as ether, Hoffman's anodyne liquor, ginger tea, the essential oils, &c. The same effect is sometimes gained by large draughts of tepid water, or still better, of very hot water, and, in particular cases, of very cold water.

Colic dependent on *constipation*, demands, of course, the Purgatives, the best of which is an ounce of castor oil, combined with a drachm of the oil of turpentine. It may happen that this state is owing to accumulations of indurated fæces in the rectum, to be removed by scooping them out.

Colic caused by *cold* only, may be cured by an opiate diaphoretic, without premising any evacuation. This should be conjoined with warmth applied to the surface. For the expulsion of flatus, the terebinthinate, or assafœtida enemata are excellent. A long bougie introduced into the intestine sometimes answers a very good purpose.

For intromission, when it can be diagnosed, which it never can be with any certainty, the best measure, probably, is a large anodyne enema. This is certainly the most appropriate treatment of stercoraceous vomiting, when not connected with an invagination.

On the occurrence of phlogosis, every stimulating remedy must be forborne, and the lancet resorted to. Next we may employ topical bleeding, and ultimately a blister.

BILIOUS COLIC.

S Y M P T O M S.

THE attack is occasionally preceded by the evidences of hepatic derangement. At other times, it comes on with a chill, followed by a fever, attended with more or less perturbation of the alimentary canal, characteristic of colic. But it is as frequently introduced by violent vomitings. Bile is rarely thrown up in the commencement; is thrown up very copiously after a time, and ceases at a still more advanced period, owing to a torpor of the liver from over-excitement. The retching, however, still continues.

Whatever may have been the mode of commencement, the pulse gradually rises till it acquires much force and volume. Sometimes, when the aggression is very violent, no reaction takes place, and the collapse may be as complete as that in malignant cholera.

Excruciating pain about the umbilicus; acute or dull pain in the head, and often depravation of vision; mind occasionally affected, and at times nervous tremors, or paralysis of the upper extremities.

C A U S E S.

The causes of autumnal fever; irritating ingesta; and epidemic influence.

D I A G N O S I S.

Distinguish from other colic, principally by the biliary derangement, and the fulness and activity of pulse.

PROGNOSIS.

Pretty much like that of flatulent colic. Very favourable is the reappearance of bile after its suppression; and most unfavourable, of course, is a want of reaction.

AUTOPSIIC APPEARANCES.

Much like those of flatulent colic. The liver is disordered, particularly by congestion. The stomach and intestines are more affected by inflammation than in the other variety.

PATHOLOGY.

The chief point of dispute, is whether the liver is preternaturally excited, or depressed into torpor. There is, however, every reason to believe that in the advanced stage it becomes torpid.

The nervous and cerebral disturbance may be either original or secondary.

TREATMENT.

As a febrile affection, attended with intestinal spasm, or phlogosis, and hepatic, and other congestions,

Venesection is demanded, and should in violent cases precede all other remedies.

Topical Bleeding and Fomentations, or Counter-irritants, to the epigastrium. Not quieting the stomach by these means, and especially if we have reason to attribute the nausea to irritating contents, we should direct

An Emetic.

An Old Opium Pill, or an Opiate Enemata.

The Warm Bath.—As soon as the stomach will bear a purgative, this should be given. But not succeeding in our attempt to open the bowels, we may, if there be force in the pulse, or any intensity of pain, repeat venesection. Topical bleeding

may be also applied to the abdomen, though, at this juncture, it may do much greater service if applied to the spine.

Still not succeeding in procuring a stool, we resort to

Purgative Injections.—Senna tea, with a drachm of jalap in it, is very good in this case. Tobacco enemata are here justly esteemed. Distending the bowels with tepid water is a further expedient. It should be recollected that the mildest enemata, by relaxing spasm, will prove effectual, when the most active, and particularly those of a harsh nature, are unavailing or aggravatory.

In regard to purgatives, it may here be mentioned, that the lenient articles are usually most suitable. The drastics often render the spasm still more violent. Castor oil, or Epsom salts, alone or combined with magnesia, are valuable; but senna tea is on the whole to be preferred. A great favourite with Dr. Chapman, is a combination of a grain of opium with five of calomel, repeated every two or three hours.

A **Blister** may be applied to the abdomen, or, in the event of spinal irritation, to the spine.

The case having been thus prepared, nothing is so valuable as the

Mercurial Impression.—It is well calculated to overcome obstinate constipation, and to prevent disorganizations.

The introduction of the fumes of tobacco by means of a common pipe or segar will frequently open the bowels in case of bilious Colic.

COLICA PICTONUM, OR PAINTERS' COLIC, DEVONSHIRE COLIC, ETC.

Its popular titles with us are *lead colic* and *dry belly-ache*.

SYMPTOMS.

Coming on gradually, nothing may at first be complained of, except a general feeling of wretchedness, uneasiness in the epigastrium, and right hypochondrium, indigestion, and constipation.

Or, without this premonition, the disease may at once commence with pain at the pit of the stomach, descending to the intestines, a twisting sensation around the navel, nausea, obstinate constipation, and frequent though ineffectual desire to go to stool.

The pains soon increase in violence, and the abdomen becomes exquisitely tender. The muscles of the abdomen and the lower limbs contract in hard knots, and there is incessant vomiting.

Some cases much resemble dysentery.

In most instances, paralytic affections supervene.

It scarcely ever lasts less than five days, and may endure months.

When the disease becomes decidedly chronic, the nutritive process is greatly vitiated, emaciation ensues, the countenance is sallow or leaden, the secretions are diminished, and the mind is very irritable, or imbecile; and thus the affection proceeds, until usually it settles down into invincible palsy of the inferior, though oftener of the upper extremities.

It may also terminate in mania, epilepsy, loss of some of the senses, or dropsy.

CAUSES.

The internal use of the preparations of lead, or an external exposure to them. Thus, persons have contracted the disease, from eating things which had been contained in a leaden or glazed jar, from drinking liquors impregnated with some saturnine preparation, possibly, in some instances, from drinking water which had been conducted through leaden pipes, from living in the vicinity of lead-works, or even from living in rooms recently painted.

It is ascertained that the carbonic acid commonly contained in water, will act upon the pure metal.

Dr. Chapman has never seen the colic result from the use of the acetate.

The affection has been ascribed to some other metals, and also the causes already detailed as productive of the other kinds of colic. But it is probable that in the instances in which this reference was made, there was either some unthought of exposure to lead, or the disease was really bilious colic.

DIAGNOSIS.

Distinguish from bilious colic by the unexcited condition of the pulse, the absence of very marked biliary disorder, the tendency to paralysis, and the mode of origin.

PROGNOSIS.

The cure is difficult and slow, even in the most recent and the mildest cases; but old and complicated ones may be deemed desperate.

AUTOPSIIC APPEARANCES.

The reports of morbid anatomists on this subject are very inconsistent. Paris, Roche, and Sansom declare that they found the intestines contracted at several points, with a hard dry mat-

ter in the intervals, and the mucous membrane reddened, thickened, and ulcerated.

PATHOLOGY.

Rather uncertain. The best opinion at present seems to be that the disease is a modified neuralgia, particularly of the spinal and sympathetic nerves, the irritation of which, when intense and enduring, sometimes leads to inflammation.

TREATMENT.

Taken in the inchoative stage, it may be sometimes arrested by purgatives and a subsequent use of opiates.

But the disease being formed, more decided measures are necessary.

The indications and remedies do not differ much from those of bilious colic.

Notwithstanding the state of the pulse, unless it be extremely depressed, Dr. Chapman resorts first to

Venesection, and afterwards to

Local Bleeding and Blisters along the spine.

Calomel and Opium may then be used as a purgative. Their action may be assisted by all the means pointed out in the treatment of bilious colic. For relaxing spasm, we may resort to the warm bath, fomentations, the tobacco cataplasm, or tobacco fumes introduced into the abdomen.

Purgation having been effected, the remaining treatment consists of opiates, laxatives, and mercury. The last, used in doses suited to produce the constitutional impression, is the most effectual means of eradicating the disease, and its sequelæ, —paralysis, &c. ✕

PROPHYLAXIS.

The effluvia from the saturnine preparations should never be suffered to come in contact with an empty stomach. Dr. Chapman has been assured by one of our most extensive manu-

✕ Alum & Strychonine are both highly extolled by the Germans in the cure of Colica Pictorum.

facturers of white lead, that even a spoonful of oil, taken occasionally, with this view, is very efficacious.

An occasional draught of diluted sulphuric acid, prepared in the form of lemonade, will make a sulphate of lead, which is insoluble and inert.

The hands of a workman should be washed, and his clothes changed, after work.

As an antidote to any of the saturnine articles received into the stomach, the sulphate of magnesia or of soda, is the best.

ACUTE PERITONITIS.

THIS treatise will chiefly regard parietal peritonitis.

SYMPTOMS.

Being introduced by languor, chilliness, and rigors, aches in the back and inferior extremities, the disease is developed by the supervention of fever, oppression of the epigastrium, more or less acuteness of pain in the lower part of the belly, sometimes circumscribed, though it may be diffused. The pain in the beginning is apt to fluctuate, and may be thus characterized throughout the case; but it is more apt to become fixed. The covering of the bladder being concerned, there will be difficulty of urination; of the diaphragm, straightness, often spasmodic uneasiness, and, uniformly, singultus; of the stomach, nausea and vomiting; and of the intestines, constipation, &c.

Sometimes, thirst, internal heat, and dryness of the fauces; pulse small, quick, and corded.

In the course of twenty-four hours, the sensibility is so great, that the weight of the bed-clothes can scarcely be borne. The pulse becomes upwards of one hundred in a minute, the tongue loaded with a white fur, or clean with polished tip and edges, and the countenance assumes the aspect of distress.

The symptoms progressing in violence, the abdomen may become greatly swollen, from flatulence of the bowels, or emphysema of the subcellular tissue.

At this time, it is not rare for the pain suddenly to cease. Simultaneously, the pulse sinks in force, while it vastly increases in rapidity. There are vomitings of dark blood, singultus, and collapse. In children, a sudden translation may take place to the brain, productive of convulsions.

Like gastritis, this phlegmasia may exist in a state of disguise.

DURATION.—Peritonitis may run its course in five or six days, or even half that period.

CAUSES.

No age is exempt, though that of maturity is most susceptible of the disease.

Various applications of cold, mechanical violence, extravasations into the peritoneal cavity, the sudden suppression of customary discharges, parturition, recession of rheumatism, gout or cutaneous eruptions, and epidemic influence, are among the causes.

DIAGNOSIS.

Distinguish from gastritis, enteritis, and colic. Very characteristic of peritonitis is the tenderness and early tensiveness of the belly, rare inclination to go to stool, and the little mitigation of pain experienced from alvine discharges. The patient lies on his back, with the legs drawn up, in order to throw the weight of the intestines on the spine, and relax the abdominal muscles.

It is discriminated from neuralgia of the abdominal muscles or peritoneum, by the absence of constitutional disturbance.

PROGNOSIS.

The case being established, proves, for the most part, exceedingly intractable. Being the result of injuries, or extravasated fluids, except in the case of dropsy, the prognosis is most unfavourable. The sudden cessation of pain, in the height of the disease, is the precursor of gangrene and death.

AUTOPSIIC APPEARANCES.

Vascularity, or lividness, in patches, or diffused; adhesions to the viscera; frequent extensions of inflammation to the tegumentary peritoneum, and the subjacent tissues; extravasations

of coagulable lymph, serum, blood, or pus; and gangrene, but never ulceration. The blood may be withdrawn from the peritoneum, so as to leave it pallid, in the act of death.

TREATMENT.

Copious Venesection.—Except when reaction is imperfect. We should not be intimidated by the weakness of the pulse, or the appearance of general debility, since these will be obviated by the blood-letting.

Leeching.—To the detraction of from six to ten ounces.

Warm Fomentations.—But when the inflammation is intense and the skin hot, and the general vascular action high, *cold* applications may suit better.

Blisters.—When the phlogosis has been decidedly reduced by the previous means.

Purges of castor oil; or, where the irritation is moderate, castor oil in union with the oil of turpentine. They should not be employed until the inflammation has been somewhat controlled by blood-letting. The bowels having been well evacuated, it will be sufficient to keep them soluble with emollient *enemata*.

The foregoing measures proving inadequate, we are next to direct—

Diaphoretics.—These determine the blood to the surface, and change the state of the capillaries. The *Dover's Powder*, aided by the *Vapour Bath*, answers best. *This is the time for the introduction of opium, which should henceforward enter into combination with every remedial measure.*

Not succeeding with the above, we may resort to the

Calomel, Opium, and Ipecacuanha.—Mercurial frictions may be used; or the raw surface of the blister may be dressed with the ointment.

We approach the period, in which the vital forces fail, and a tendency to gangrene supervenes.

Carbonate of Ammonia, or, still better, **Oil of Turpentine**.

The latter may be also employed in the form of enema, to obviate the flatulence.

Wine.

The case wearing the typhoid aspect from the commencement, general bleeding should be more limited, and an earlier resort should be had to blisters, diaphoretics, and mercury.

CHRONIC OR SUBACUTE PERITONITIS.

SYMPTOMS.

MAY be either a degeneration of the acute disease, or primary. Being the latter, its approach may comprehend weeks, or months, without exciting suspicion.

A tightness, or pinching soreness, from one ilium to the other, though the skin and abdominal muscles are loose. The tightness relieved by evacuations from the bowels, and much increased by constipation. Pain felt on coughing, or sneezing. Torpor of the bowels, commonly,—the stools indicating a want of bile; the urinary secretion deficient and vitiated; digestion depraved, and the appetite impaired; pulse nearly natural, or exceedingly accelerated; tongue more or less furred in the morning; thirst urgent, though there is no apparent fever, or even heat of surface; face pale, or sallow and languid; sometimes cough; and towards evening œdema of the feet and ankles.

The case being exacerbated, is developed by greater pain, tension, gastric disorder, constipation alternating with diarrhœa, slight fever, aggravated in the evening, and a cleaner or florid tongue.

Those tissues which in even slight acute attacks display the sharpest pain, may suffer the greatest disorganizations by a gradual process, without any manifestation whatever.

The disease progressing, involves the constitution in hectic, and a general cachexia. The cutaneous vessels may become remarkably turgid. Diarrhœa is usual in the advanced stages. Whether there be ascites or not, anasarca of the lower extremities almost always takes place.

May endure from a few weeks, to a space of years.

CAUSES.

The acute affection, ill-cured; the causes of acute peritonitis acting on an old or impaired constitution, or one cold and phlegmatic; habitual drunkenness; protracted intermittents.

DIAGNOSIS.

Much like that of the acute disease. Distinguish also from colitis.

PROGNOSIS.

Usually curable, when no structural lesions have taken place.

AUTOPSIIC APPEARANCES.

Besides those incident to acute peritonitis, we may observe thickening, or a granulated, tuberculated, or ulcerated surface, adherent hydatids, the intestines agglutinated in masses, disorganization of other viscera, and serum effused in so great an amount as to constitute ascites.

TREATMENT.

We should at first endeavour to reduce the inflammation by the means detailed under the preceding head, tempered to the condition of the system. Much has been said of the value of mercurial inunctions; which on a proper reduction of phlogosis, should be, perhaps, resorted to.

Subsequently, the disease continuing, we may maintain a strictly regulated regimen, and direct calomel, ipecacuanha, and opium,—the last to be freely used in case of much pain. But mostly, these instances are probably incurable. Dropsy coming on, diuretics may be combined.

DISEASES OF THE RESPIRATORY SYSTEM.

DR. CHAPMAN begins with the affections of the mucous tissue, and, as most simple, he first takes

CATARRHUS OR CATARRH.

ACUTE FORM.

The etymological meaning is, a *defluxion*.

It consists in a phlogistic irritation of the mucous membrane of the bronchi, larynx, trachea, fauces, nose, and frontal sinuses; or it may involve only a part of these structures.

This irritation being sometimes unaccompanied with a defluxion, is called by Dr. Chapman, according to custom, *bronchitis*. It is the same which some, by a great solecism, call the *dry catarrh*.

SYMPTOMS.

The violence may vary exceedingly.

INTRODUCTORY.—A sense of fulness about the head; sneezing; a distillation of an acrid fluid from the nose and eyes, technically called *coryza*,—lassitude, muscular pains,—and, finally, rigors, or, at least, increased sensibility to cold.

MORE ADVANCED.—Hoarseness, titillation of the throat; stricture of the chest; embarrassed respiration; a dry, irritating cough, or accompanied with glairy mucus raised by hawking;

and fever, usually exacerbated in the evening, and associated with acute pain about the frontal sinuses.

AFTER A FEW DAYS, in favourable cases, the affection passes off with copious and easy expectoration of yellow mucus, or by a watery diarrhœa. But it may run into a *chronic degeneration*.

In *weakly, phlegmatic* constitutions, a *state of collapse* ensues, attended with wheezing and rattling from bronchial accumulations. Owing to this obstruction, the blood being no longer decarbonized, there take place lividity of countenance and often death. But in some instances, particularly when epidemic, the disease is formidable from the beginning. This exacerbated condition may arise from the complication of some other pulmonary, or a gastric, hepatic, or cerebral inflammation.

CAUSES.

Sudden vicissitudes of weather; inadequate clothing; drafts of air, particularly when the body is heated; damp clothes; sleeping in damp sheets, or in a damp room; standing on wet ground; entering suddenly a cold cellar or such other place; certain effluvia, as from fresh paint, or particular flowers; the irrespirable gases; the inordinate use of snuff; and an epidemic influence.

Proceeding from the last cause, it is called *Influenza*. This epidemic has existed at least from the fourteenth century. Its general direction is from north to south. The susceptibility to the disease is destroyed for the time by one attack, though, on a return of the epidemic, it may be revived. It does not, however, secure an individual from a catarrh, contracted in the ordinary manner.

DIAGNOSIS.

The secretion being abundant, the rattle revealed by the stethoscope is loud and gurgling, though occasionally sibilous; being deficient, the tone is still more sonorous, resembling the cooing of a pigeon, or the scrape of a large violoncello, denoting

a tumidity of the lining membrane from inflammation. Connected, also, with large secretions, is a suppression of the respiratory murmur, which may, however, be suddenly restored, from a removal of the obstruction by coughing.

PROGNOSIS.

The epidemic form most dangerous, and sometimes very fatal. Either an exuberance of secretion, augmenting oppression, or a total want of it, denoting high inflammation, is unfavourable. Thin and glairy sputa denote a continuance of irritation; while thick yellow sputa indicate the approach of convalescence. Catarrh, however, from the danger of its complications, or degenerations, should never be neglected.

AUTOPSIIC APPEARANCES.

The membrane is found covered with the matter of sputa; which being wiped away, there is disclosed a redness, prevailing mostly about the end of the trachea, and in the bronchi of the upper lobe of one lung. In non-secreting cases, the membrane is also tumefied. But widely spread complications are generally associated with the fatal instances.

PATHOLOGY.

The affection commences in irritation; which, should the case become at all severe, is converted into inflammation. Its first attack is commonly in the pituitary membrane of the nose, reaching sometimes to the frontal sinuses, which is vulgarly called a *cold in the head*. It afterwards descends the trachea and bronchii. The alimentary canal, brain, &c., may also be implicated.

TREATMENT.

1. FOR THE FORMING STAGE.

An Opiate.—Nothing answers so well to suppress an attack.

On the same principle, operate spirituous liquors, exercise, and other diffusible stimulants.

An opiate being for any reason precluded, resort may be had to a hot *pediluvium*, *sweet spirits of nitre*, *antimonial wine*, *acetate of ammonia*, or other mild diaphoretics, assisted by warm diluents. Or a warm infusion of the *Eupatorium perfoliatum*, may be preferable. A copious draught of cold water is occasionally still more effectual. The determination to the head being considerable, the *pediluvium* may be made more stimulating by the addition of mustard and salt.

The pain in the frontal sinuses being very severe, leeches, vesication, and the snuffing up of various vapours, or a dose of *opium* and *calomel*.

2. THE CATARRH BEING FULLY FORMED.

Venesection.—When the case is violent. The repetition should be regulated by the pulse and other considerations.

Local Bleeding.

Purging with Salines. The attack being violent, or attended with much oppression, *Calomel* answers better.

Nitre, and Tartar Emetic.—Exhibited early, an emetic is strikingly useful, and is well calculated to relieve oppression. But it is too unpleasant to be generally used. The tartar emetic, however, in small doses, and the nitre may be used when there is no phlogosis of the alimentary canal. When there is, we may substitute the **Neutral Mixture**.

Blisters.—To be used when the inflammation is reduced, there yet remaining a hard lingering cough, and a remnant of pain in the chest. Applied too soon, they do more harm than good.

Calomel, Opium, and Ipecacuanha.—Applicable in the same stage with blisters.

About this time, the state of fearful *depression and excessive secretion*, is apt to supervene. Dr. Chapman considers it more fully in the treatment of Bronchitis, here only remarking that it is chiefly to be met with **Carbonate of Ammonia**, aided by Cordial drinks.

The acute stage of catarrh being fully subdued, **Cough Mix-**

tures, as they are called, become serviceable. They nearly all contain *Opium*.

As a means of promoting expectoration, and calming the irritation which excites coughing, Dr. Chapman recommends the following compounds:—

R.—Extract. Glycyrrh. ℥iij.
 Aq. ferv. f℥iv.
 M. Ft. solut. et adde.
 Sp. Æth. Nitr. f℥ij.
 Vin. Antimon. ℥j.
 Tinct. Opii, gtts. xl.

R.—Carbonate of Potash (or Soda), ℥j.
 Antimon. Wine, f℥j.
 Tinct. of Opium, gtts. xl.
 Compound Spirits of Lavender, f℥ij.
 Pure Water, ℥iv.
 Mix.

Of these preparations, may be taken half a tablespoonful every two hours.

It is well ascertained that the *Alkalies* possess an effectual control over this state of the mucous membrane.

As a *palliative*, a solution of

Sugar, with enough lemon-juice or vinegar to acidulate it, simmered slowly into a syrup, will prove useful.

REGIMEN.—The diet should consist of the demulcents. Should something more be necessary, gruel, potatoes, the vegetable soup, &c., may be employed.

Confinement in a room, with the temperature duly regulated, should be observed, and in severe cases, the patient ought to maintain his bed.

Sometimes a lingering cough is left, which resembles pertussis. It will be commonly found that this is owing to diffused phlogosis, or relaxation about the fauces.

CATARRHUS ÆSTIVUS, OR HAY FEVER.

THIS disease, which prevails about the time hay grass blooms—that is, in the early part of spring—was formerly thought peculiar to England. But Dr. Chapman has seen it in this city.

Attacking first the external apparatus of the eye, it thence extends to the Schneiderian membrane, and the other parts liable to the incursions of common catarrh. It is accompanied with nervous irritation, rather than fever. Sometimes it is marked by paroxysms, like those of spasmodic asthma. Enduring for a month or six weeks, it subsides, to revert next season, which it may do for many years, in spite of precautions.

The cause of the affection is doubtful.

CHRONIC CATARRH.

THE affection which Dr. Chapman considers under this name, is that form which ultimately degenerates into what has been called CATARRHAL CONSUMPTION.

SYMPTOMS.

Cough; pain in the chest; soreness of the throat; sputa of a glairy phlegm, in the midst of which are small masses like boiled rice, mistaken often for pulmonary tubercle. Being sebaceous, however, they melt on subjection to heat, while tubercular matter does not. The expectoration gradually becomes more copious, mucoid, puriloid, and finally pus; which, however, is secreted by the mucous membrane. The purulent matter is grayish or greenish, and occasionally tinged with blood. It may be deficient, or may amount to even pints in twenty-four hours. The pulse hard and accelerated, and the system ultimately hectic. The disease invading other structures, may assume the form of some other pulmonary disease.

CAUSES.

May succeed the acute affection, or arise from the same causes. It is owing more frequently to the inhalation of particles thrown off in certain mechanical operations. Dr. Chapman ascribes it also to disorder of the digestive apparatus, or uterus, to rheumatism, gout, or the repercussion of eruptions.

DIAGNOSIS.

Often difficult from the complications of the disease. Distinguish from tubercular consumption, by the fluid nature of the sputa. Proceeding from a tubercular cavity, they are thick, woolly, and always spit up in dabs, or separate masses. This observation was first made by Dr. Chapman. Tubercle is sometimes, however, productive of a catarrh.

Learning from percussion the presence, or absence, of tubercle, we perceive, if the attack be chronic catarrh, the same sounds as in the acute affection. We have, also, as guides, the absence of pectoriloquism, cavernous respiration, the permanent want of the respiratory sound from induration, &c.,—sounds which denote phthisis.

AUTOPSIIC APPEARANCES.

In an early stage like those of acute catarrh. In older cases is exhibited hardening, or softening; where the affection is excited by acrid inhalations, small ulcers; dilatation of the bronchi, and sometimes merely a preternatural paleness of the membrane. Besides, we occasionally observe extraneous complications.

TREATMENT.

Concerning this subject, Dr. Chapman is brief; since both the *indications* and the remedies are much like those of *phthisis*. Depletory methods, however, may in most cases be used more freely.

Venesection, Local Bleeding, Blistering.

Ipeacuanha, Tartar Emetic, Nitre, or such other sedative articles, and a Low Diet.

An Emetic may next be resorted to occasionally, with great efficiency; as may also the

Cough Mixtures formerly mentioned, which, together with the

Fixed Alkalies, may be entirely substituted for the emetics.

This course failing, have recourse to the alterative effect of **Calomel**, in combination with **Opium** and **Ipecacuanha**. This also failing, we may try the

Balsamic Medicines, of which, Dr. Chapman prefers the **Tolu**.—To the same description of cases, rather more reduced, are adapted the

Terebinthines.—We may try tar water, or inhalations of tar. Other remedies are preparations of **Iodine** and **Chlorine**.

BRONCHITIS ACUTA, OR ACUTE BRONCHITIS.

THIS affection was formerly called PERIPNEUMONIA NOTHA, or CATARRHUS SUFFOCATIVUS, VEL NOTHUS. The term BRONCHITIS, is better, though objectionable from its implying inflammation, which is not the real pathological condition.

SYMPTOMS.

The mode of aggression is diversified. It may commence like ordinary catarrh, or suddenly, with heavy pulmonary oppression, and wheezing, and rattling from excessive secretion. Tension, but seldom acute pain, in the chest; cough insignificant and dry, though phlegm is sometimes sparingly expectorated. No hoarseness, nor defluxions from the nose or eyes; the pulse rather accelerated, or slower, fuller, and more compressible than natural; the skin cold; face pale, and hebetude and confusion of mind.

Differing from this, we may have complete reaction, as shown by high fever and headache. Here too, however, we have the distressing tightness of chest, but no positive pain, and a cough, without much expectoration.

MORE ADVANCED SYMPTOMS.—Increased oppression, cerebral heaviness, or low delirium, livid countenance, and the various evidences of an adynamic state. The bronchial secretion is, at this period, usually enormous, thin and pituitary, with loud wheezing and rattling.

Death ensues from suffocation, consequent on excessive accumulations in the bronchi, from absolute exhaustion, or from cerebral disturbance.

But the disease may be so mild as scarcely to attract attention, and it may be complicated with various pulmonary affections as well as with those of the alimentary canal.

CAUSES.

Same as those of catarrh.

DIAGNOSIS.

The pathognomonic symptoms are wheezing and rattling. If we should be embarrassed by complications, a recourse to the stethoscope, which reveals the same sounds as in catarrh, will dissipate the obscurity.

PROGNOSIS.

A dangerous disease.

FAVOURABLE SIGNS.—Easy expectoration of thick, yellow, tenacious matter, improved respiration; warm skin, and above all, defluxions from the nose.

It terminates in three or four days, or may do so even within a few hours.

AUTOPSIIC APPEARANCES.

The bronchi will be found gorged with glairy secretions; and the vessels sometimes injected. Yet the mucous membrane is usually rather paler than natural. The lungs, brain, and other structures may be also involved.

PATHOLOGY.

Differs from catarrh, in proceeding from irritation and congestion, instead of inflammation of the mucous membrane, and

in being confined more to the bronchi. Hence it is that the secretion is pituitary rather than mucous, and that in the form now considered, it occurs exclusively among the infirm and aged, who cannot support any high degree of inflammation. The lividity proceeds from an imperfect decarbonization of the blood.

TREATMENT.

Venesection, when it can be borne. The detraction should be small, and it may be repeated if it is beneficial.

Active Vomiting.—Very appropriate to an early stage. Should not be used where there is gastric complication.

Cups, between the shoulders, and to the sides, may succeed, if necessary, the emetics.

A **Blister** of large size to the breast.

Calomel Purges, though in contrariety to an antiquated prejudice against the use of purges in pulmonary complaints.

Calomel, Opium, and Ipecacuanha.—Or, the opium, which here never does harm, may be united with the squill, gum ammoniac, or senega.

R.—Decoct. Rad. Senegæ, ℥vj.

Mel, ℥j.

Tinct. Opii. Comp., ℥ss.

Dose, a fluid ounce every two hours.

The Antispasmodics, and in an extremity, the **Carbonate of Ammonia**, and **Hot Wine Whey**.

As palliative may be employed the vapour of hot water, or hot water with the addition of vinegar, or tincture of tolu (an ounce to the pint), or iodine. The sensibility of the glottis and mucous surface being diminished, we may try the vapour of Hoffman's anodyne liquor, or the spirits of ammonia.

BRONCHITIS CHRONICA, OR CHRONIC BRONCHITIS.

SYMPTOMS.

A DULL, uneasy sensation, usually under the sternum; cough, expectoration of glairy or frothy phlegm, sometimes becoming puruloid, or purulent, though oftener gleety, and still more commonly unchanged in character, but augmented in quantity,—attended with heavy dyspnoea, and constant wheezing and rattling.

Pulse feeble; skin pallid and damp, with a tendency to œdema.

Thus, with occasional fluctuations, may the disease run on for years.

Death may occur from suffocation, or dropsy, or absolute exhaustion, or hectic irritation.

CAUSES.

An ill-cured acute affection; cold and humidity operating on a lymphatic constitution, or on a constitution vitiated by intemperance, gout, &c.

To dyspepsia, chronic hepatitis, and, perhaps, to worms, is it sometimes owing.

DIAGNOSIS.

Distinguish by the wheezing and rattling, the pallor, flaccidity of skin (and sometimes œdema of the face), and *by the same auscultatory signs, as in acute bronchitis.*

P R O G N O S I S.

Old, or complicated attacks, generally incurable.

A U T O P S I C A P P E A R A N C E S.

Organic alterations,—such as ulcerations, granulations, hardening, &c.,—are discovered in the bronchia. The lungs are often hepatized, the abdominal viscera frequently found in a state of disease; and dropsical effusions are common.

T R E A T M E N T.

In uncomplicated cases, occurring in sound constitutions.

Venesection.—*The alternate application of Cups to the back, and Blisters to the chest.*

Small doses of Calomel, Ipecacuanha (or Squills), and Opium.

Colchicum may be serviceable in *arthritic* cases.

The Balsams and Terebinthines.—The patient having been prepared, on these must we place our chief reliance. They are particularly adapted to instances of a mucoid, purulent, or gleetly discharge.

Tonics.—When the discharges are thin and pituitary.

The bronchitis being secondary, we must, of course, cure the primary affection.

TUSSIS VEL CATARRHUS SENILIS.

A FORM of chronic bronchitis, incident to old age.

SYMPTOMS.

Cough and defluxions. These, however, being inseparable from the conditions wrought by old age, hardly become objects of medical treatment. But being aggravated by a cold, the symptoms exhibit a morning and evening exacerbation, at which time the dyspnœa is distressing, the wheezing and rattling sonorous, the pulse feeble, skin cold, and countenance haggard. The disease may be frequently repeated upon fresh exposures, until the powers of life are expended. The disease is sometimes, however, continuous for years; and may be attended with immense secretions.

TREATMENT.

Being a modified form of chronic bronchitis, the same remedies are applicable; to be employed, however, with less rigour, and to a less extent.

REGIMEN.

In all these chronic bronchitic affections, the diet should be moderate, but nutritious; and, when the weather is dry, the patient should go about freely in the open air.

INFANTILE BRONCHITIS, OR CATARRHAL FEVER.

A DISEASE incident to children, and varying in nature between a catarrh and bronchitis, and entitled accordingly by one of the above-mentioned names.

Generally met with, between the ages of two and three; though often much earlier or later.

SYMPTOMS.

PRIMARY.—Beginning as a common cold, it may thus continue several days. Yet there is some disposition to heaviness. Fever moderate, or entirely absent.

SECONDARY.—Fever; dry, frequent cough, sometimes hoarseness, and constriction of the chest.

TERTIARY.—A state of collapse. After a series of remissions and exacerbations, the child sinks away in a comatose state, or suddenly perishes by suffocation.

The affection has sometimes a bronchitic character from the commencement. Occasionally, other portions of the respiratory apparatus are involved; and at other times, by an extension of irritation, the primæ viæ are implicated.

It is remarkable how prone these catarrhal and bronchitic affections are, to degenerate into effusions in the brain.

CAUSES.

Chiefly occasioned by vicissitudes of the weather. But it may prevail epidemically.

Phthisical children are most subject to the affection; but the robust are very apt to contract the catarrhal variety.

For the **DIAGNOSIS, PROGNOSIS, AUTOPSIIC APPEARANCES, and PATHOLOGY**, the remarks on these subjects under the corresponding diseases of adults, will suffice.

TREATMENT.

IN THE CATARRHAL FORM,

The leading remedy is

Venesection.—Subsequently we may resort to the other measures recommended for the same state in a more advanced age.

BUT IN THE BRONCHITIC FORM,

Venesection is seldom allowable; giving rise to a state of collapse rarely overcome. Mostly, in this form, we should commence with,

An Emetic.

Calomel Purges.—The object is to produce revulsion to the intestines, and to arouse the secretory action of the liver, which is always more or less impaired. We should persevere, until we discover that welcome harbinger of amendment, discharges of bile.

Cupping, at an early stage.

The Antimonials, &c., while there is fever.

Blisters, A Combination of Calomel, Opium, and Ipecaacuanha, and Cutaneous Friction, with the Warm Bath, when vascular action has subsided.

Collapse supervening,

The Carbonate of Ammonia, Wine Whey, with Sinapisms to the Extremities.

CHRONIC INFANTILE BRONCHITIS, ETC.

THE catarrhal variety has in it nothing singular. But the bronchitic form, and especially that popularly called *phthisic*, may claim a slight attention.

It is sometimes congenital, or manifested, at least, soon after birth, and is then often connected with a contracted chest, and, almost uniformly, with a phlegmatic temperament.

Excepting a perpetual excess of bronchial secretion, with a wheezing and rattling, nothing is usually discovered, until an exasperation is induced by exposure to cold, when there is an accession of fever, with excessive pulmonary oppression.

TREATMENT.

The attack is to be managed like a case of common bronchitis.

In the interval of the attacks, a careful avoidance of the exciting causes, should be observed; and tonic medicines and regimen become of service.

The affection arising from malconformation, we can effect little. Puberty, however, sometimes develops a favourable change of structure.

CYNANCHE TRACHEALIS, OR CROUP.

POPULARLY called HIVES. Consists of an inflammation chiefly in the larynx in the commencement, and in the bronchia in the termination.

The disease is mostly confined to early life; and the attack usually comes on at night.

SYMPTOMS.

AGGRESSIVE STAGE.—A dry hoarse cough, compared to the barking of a small dog. At this time there is no appreciable constitutional disturbance. The child soon relapses into a sleep, from which it is again aroused by the cough. Cases of this kind soon perish, if relief be not afforded. The attack, too, being apparently overcome, manifests a lively disposition to return a few hours afterwards, or, at least, the next night; or, the disease may supervene as a cold. Catarrhs destitute of a defluxion, are very apt to become croup.

ADVANCED STAGE.—An active tense pulse, flushed face, and hot dry skin; the respiration audibly impeded, and distinguished by a stridulous intonation, resembling cooing, or in some instances, especially when the case is somewhat farther advanced, by a species of hissing. The cough becomes whooping, and is always without expectoration, or defluxion from the nose or eyes. The voice is hoarse, or whispering. The alimentary canal is remarkably insensible to remedies. The brain shows its affection by flightiness, or somnolency.

Subsequently is expelled with difficulty, phlegm, or ropy mucus, or albuminous matter, which, while in the larynx, occasions

a wheezing, or rattling. Being thrown up, temporary relief is afforded.

Henceforth the symptoms are those of slow suffocation. Yet, in the hawking which is sometimes made, the coagulated lymph, which had been effused by the larynx, is brought up, and a cure is effected.

DURATION.—The disease seldom exceeds two or three days; and, may, when of the spasmodic form, terminate in a few hours.

The inflammation sometimes travels down to the remotest ramifications of the bronchi. The case may also be complicated with engorgement of the lungs, phlogosis of their structure, or serous covering, or with œdema of the cellular texture.

C A U S E S.

PREDISPOSING.—The period of life between one and five years—(though the affection is probably incident to adult age). It seems to be sometimes hereditary.

EXCITING.—A moist austere atmosphere. It seems endemic in certain situations. Thus, in Leith, the seaport of Edinburgh, it is frightfully prevalent; while in Edinburgh, about a mile distant, it scarcely ever occurs.

Irritation of the primæ viæ. Spinal irritation. Mental emotions.

Scarlet fever, by an extension of phlogosis to the larynx, sometimes assimilates croup.

D I A G N O S I S.

It can hardly be mistaken by those who have once seen it.

Chiefly does it resemble *laryngismus stridulus*, and *cynanche laryngea*, the distinctive marks of which will be pointed out, when these diseases are taken up.

To discriminate the two varieties of croup—spasmodic and inflammatory—we need only advert to the mode of attack.

The SPASMODIC FORM supervenes suddenly, and in children, and usually at night. It is betrayed by the clangorous or barking cough, and sometimes by manifestations of impending suffocation. In adults, it is often induced by mental emotions.

The INFLAMMATORY FORM approaches gradually, as catarrh, with slight or no defluxions from the nose; and the croupy cough, when formed, is less clangorous.

The creation of an adventitious membrane in the windpipe, may be inferred from a sensible abatement of intensity in the tone of the cough, the hoarseness degenerating into a whisper, the breathing appearing as if it were made through gauze, and the dyspnœa amounting to strangulation. On the other hand, the obstruction from a secretion less adhesive than plastic lymph, allows the same sort of wheezing and rattling which belong to catarrh or bronchitis. We may be aided by auscultation.

PROGNOSIS.

Treated early and judiciously, the prospect is good; but, being confirmed, or the membranous exudation having been thrown out, or the lungs having become in any way implicated, the cure is exceedingly doubtful.

AUTOPSIIC APPEARANCES.

At an early period, no lesion whatever may be observed; or there may be merely evidence of pre-existing spasm of the glottis.

At a more advanced period, there may be high phlogosis of the larynx. Its tissues may be only tumefied; but more frequently there are extravasations of ropy mucus, or of coagulable lymph,—the latter in broken pieces, or constituting a tubular lining down through the trachea, and sometimes to the terminations of the large bronchi. This lining may be either a yellow pulpy matter, easily detached, or it may be very tenacious, like pure lymph, and forming, as was formerly mentioned, an adventitious membrane.

Besides, may be observed the evidences of those pulmonary complications already alluded to.

PATHOLOGY.

The almost entire insusceptibility of adults of the disease, is attributed to that mutation, which takes place in the larynx about the age of puberty, and is evinced by the enlargement of its calibre, and the deepening and strengthening of the voice.

The affection may either be spasmodic or inflammatory. Its spasmodic nature is demonstrated by its occasionally supervening in a moment, and being connected, as appears from the necroscopy, with no inflammatory appearances. But the spasm is soon converted into an inflammation.

The extravasation of coagulable lymph in croup, when it does not take place in catarrhal inflammation of the same part, is attributable to the superior intensity of phlogosis.

In the croup of children, there is a greater inclination to the effusion of coagulable lymph; which results from the greater proportion of fibrin existing in those whose system is still in a state of growth.

TREATMENT.

Dr. Chapman's mode is simple, and so successful, that he never lost a case, to which he was early called.

Whether the affection be a spasmodic irritation or phlogosis, the management may be identical. No allusion, however, is now made to the hysterical and neuralgic forms, which occur in advanced life.

Nauseants and a Sinapism to the neck, sometimes arrest the disease in its forming stage. The smoking of a cigar, or the snuff plaster to the breast, has been here recommended. But the former is inapplicable to children, and the latter is unsuited, from its occasional uncontrollably depressing effects.

These failing, we endeavour at once to produce

Free Vomiting.—The syrup of ipecacuanha is preferable for ordinary use. Tartar emetic, somewhat dangerous in the

insensibility of stomach incident to croup, may, however, be added, when necessary to induce emesis. But the surest emetic combination, is a union of ipecacuanha, tartar emetic, and calomel. The emetic may be given in divided doses. An increased susceptibility to the emetic may be created by a

Warm Bath, which is itself curative in tendency. But the emetic not operating, or having operated, not producing the desired effect, we may resort to

Copious Venesection.—This may be followed with a repetition of the warm bath. The croup, now, nearly always yields. But continuing, we direct

Topical Bleeding.—Cups being used, they should be applied to the sides, or the back of the neck.

A Blister.

The foregoing measures proving still unavailing, Dr. Chapman employs

Bleeding ad deliquium animi.—In the early period of the disease, he has never known this to fail. Even where the phlogosis is not cured by it, there results an extravasation of thinner and less tenacious substance than plastic lymph.

Purgation by Calomel.—To be employed when the disease is somewhat broken. It destroys the lingering symptoms, and confirms convalescence.

Polygala Senega is a useful expectorant, when there is still much hoarseness and tightness of chest.

But from neglect, or inadequate management, it may happen that at this time, the forces of life being enfeebled, the disease is still unsubdued. In this conjuncture, Dr. Chapman recommends *diaphoresis*, produced by the

Dover's Powder and Vapour Bath.

But depletion having been inadequately resorted to, the case may, at this period, be complicated with the exudation of a tenacious mucus, or plastic lymph, the latter sometimes forming a false membrane. Here we endeavour to expel the exudation by placing the child in a warm bath, and at the same time exciting vigorous emesis by some stimulating emetic. Yet the plastic lymph, especially if membranous, is very seldom detached.

The subsequent treatment consists of the pretty constant use of the stimulating expectorants. But perhaps more will be gained from calomel in small doses, which instituting a copious secretion of a thin fluid, may separate the tenacious mucus, or lymph, or even the false membrane. Dr. Chapman recommends the use of small doses of tartarized antimony, in connexion with the calomel, which he thinks promotes the specific action of mercury.

These measures being ineffectual, as they probably will be, our only resource is in tracheotomy. Yet the disease has usually implicated to such a degree the lower part of the trachea, and the bronchia, that little is to be gained by the operation. The affection, however, is sometimes restricted to the larynx; and there have been many instances reported of the operation having been followed with a permanent cure.

For the expulsion of the adherent secretion, sternutatories have been proposed. It occurred separately to Dr. Chapman and to Dr. Physick, that it might be detached by the introduction of a bougie.

Croup being secondary to an inflammation of the fauces, the latter should be touched with a strong solution of the nitrate of silver, or with burnt alum.

It is the practice of many of the European, and, particularly, the French physicians, to waive venesection in this disease. But, according to their own confessions, the mortality of their patients is awful.

Most erroneous is the common notion that children will not well bear depletion. The truth is, they bear some of the active remedies much better than adults,—especially vomiting, purging, and the loss of blood. This, indeed, apart from experience, might, from their high proportion of blood, and particularly of the fibrinous element, from their great recuperative power, their tenacity of life, and their predisposition to inflammatory complaints, be predicated of them.

LARYNGISMUS STRIDULUS, OR ACUTE INFANTILE ASTHMA.

FIRST noticed in 1769, by an English writer, of the name of Millar.

SYMPTOMS.

The child wakes up, in an apparently suffocating condition. This state, having lasted a few minutes, gives way, and is succeeded by a long, full inspiration, attended sometimes with a whooping or a crowing noise, like that of croup. After much agitation, the child sinks into a sweet sleep, or attended only by temporary sobbings. On waking it is well, or is cross, or dull and drowsy, which state quickly wears away, or there may be a repetition of attacks in rapid, or more distant succession, for an indefinite period. Each paroxysm then is lengthened and sometimes leads to general convulsions, in which the fingers and toes are spasmodically contracted. Death may take place in such paroxysms; or they may be followed by a state of lethargy. In some protracted instances they bear the apoplectic character. A very slight constriction of the glottis sometimes induces this state. The disease is then apt to run a lingering course, the paroxysm recurring every hour or two, or at intervals of days, or weeks. It may observe, with considerable regularity, a quotidian, tertian, or quartan recurrence.

In the acute disease, fever is never betrayed; but, in protracted instances, some vascular excitement and determination of blood to the head, may be exhibited.

CAUSES.

Laryngismus, in Dr. Chapman's experience, has been con-

fined to childhood, and chiefly within the period of dentition; the spasm of the glottis in adults, differing in several respects.

THE GREAT PREDISPOSING CAUSE, is probably a peculiar irritability of the respiratory tube, and smallness of its calibre.

EXCITING CAUSES are mental emotions, and irritation of the primæ viæ.

DIAGNOSIS.

It is distinguished from **CROUP** by its momentary nature, and its being followed by no inflammation, and from *asthma*, by the breathing being stridulous and dry, instead of wheezing and rattling.

It differs from a similar closure of the glottis in adults, in the latter resulting from a highly-wrought nervous condition.

PROGNOSIS.

In its milder forms, manageable. But the reverse is true, when the paroxysms become very numerous, and are connected with cerebral disturbance, and when the affection is complicated with dentition.

AUTOPSIIC APPEARANCES.

Congestion, serous effusion, or structural changes of the brain; engorgement of the lungs; and sometimes the thymus, or other glands about the neck, in a state of enlargement. But, occasionally there is no lesion whatever.

PATHOLOGY.

The common notion in regard to this subject, is, that the spasm is excited by the compression of the recurrent or inferior or laryngeal branch of the par vagum, from tumours. But it is doubtful whether the compression of tumours, if they should be sufficient to affect the nerve, would not rather produce paralysis.

The spasm, too, in such a case, being produced by a permanent cause, should recur more frequently. But, above all, how often do we see the disease without any such tumours, and, conversely, how often do we see such tumours without the disease!

Dr. Chapman places the seat of the disease in the cerebro-spinal axis. In the progress of the case, it is apt to be concentrated in the brain. The affection may either be original to these nervous centres, or it may arise primarily from irritation in the alimentary canal. The analogous cases of adults, are confessedly the result of cerebro-spinal disease; and such they have often been demonstrated, by dissection, to be.

It is likely that the affection differs in no wise from the ordinary fits of children, except in the casual accompaniment of spasm of the glottis.

TREATMENT.

The paroxysm is usually so transient, that little can be done for the relief of the spasm. Strong counter-irritation, with the aqua ammoniæ applied along the windpipe, may be serviceable.

In the intermission,

Bleeding, General and Topical.

Warm Bath.

Emetics, and Purgatives.

Revulsives to the lower extremities, with Cold Applications to the Head.

Counter-irritants to the head.

The primary point of irritation being in the alimentary canal, the emetics and purgatives are to be used first. There being worms, these are to be first destroyed by anthelmintics. The gums are to be incised in the case of dentition. Such remedies, however, having been premised, the employment of opiates will be often beneficial. These are sometimes eminently valuable in quieting irritation of the brain, especially when arising from disorder of the primæ viæ.

PERTUSSIS, OR WHOOPING COUGH.

WAS first observed in France in 1414. Almost exclusively incident to childhood.

SYMPTOMS.

AGGRESSIVE.—May begin like an ordinary cold, with more or less fever, which, though it usually soon ceases, sometimes continues throughout the course of the disease.

MORE ADVANCED.—Commonly, in from ten days to two weeks, the sonorous inspiration or whooping commences. The affection now becomes strictly paroxysmal. An attack is preceded by tickling of the throat, constriction of both the larynx and chest, and a sense of suffocation. Each paroxysm is composed of a quick succession of sonorous expirations, with scarcely, for a considerable interval, any perceptible inspiration. The expiration, however, becomes, at length, suddenly interrupted by a deep, convulsive, noisy inspiration, accompanied by a lengthened hissing, ending usually by vomiting, or by an expectoration of phlegm. In some paroxysms, so great a congestion of the head takes place, that the blood issues from the mouth, nose, eyes, or ears, or it may eventuate in convulsions.

The paroxysm is sometimes very soon over. At other times, it lasts from five to ten minutes.

At this time, the intermission between the paroxysms is usually a period of health; though sometimes there is exhibited derangement of the respiratory, digestive, and nervous systems. But such derangement is more commonly met with in a subsequent stage.

The number of paroxysms may, in the beginning, not exceed two or three daily; while at the height of the disease, there may be so many as one every hour.

The affection may terminate indefinitely in from one to three, or even six months.

CAUSES.

The affection depends on a contagion, which rarely affects the same person more than once. It is also much subject to an epidemic influence.

DIAGNOSIS.

It is distinguished from catarrh by the paroxysmal nature, and other peculiarities of the cough; generally by the absence of fever, and, when fully developed, by the whooping nature of the cough.

PROGNOSIS.

The disease may terminate in death from apoplexy, convulsions, or suffocation, or it may result in some other affection of the respiratory apparatus, or disease of the brain.

AUTOPSIIC APPEARANCES.

Inflammation of the larynx and bronchia, congestion, inflammation and effusions in the brain, lesions of the spinal marrow, and depravations of the digestive organs, especially of the mesenteric glands.

PATHOLOGY.

The seat of the disease has been placed by different writers in the bronchia, either in their larger trunks, or their minute ramifications; in the larynx; in the pharynx; in the spinal marrow, or brain; and in the alimentary canal.

Again, one set of pathologists aver that the nature of the action is purely spasmodic; while another aver it to be actively inflammatory.

Most obviously, however, the affection originates in spasmodic irritation, which, by protraction, may induce phlogosis of the mucous membrane of the different parts of the organs of respiration, occasioning an increased secretion, variously vitiated, which, accumulating, may act as an extraneous irritant, and bring on the cough for its expulsion.

But, from the peculiarity of the cause producing it, the inflammation of the pulmonary and other structures is specific.

The sonorous inspiration proceeds from spasm of the glottis, and perhaps ultimately from tumefaction of the lining tissue from phlogosis.

The primary point of irritation is probably in the spinal marrow, especially the upper part; though it is, possibly, first seated in the respiratory or gastric surface, and be thence reflected from the spinal marrow, by *reflex action*, as it is called.

TREATMENT.

This, like all other diseases dependent on a specific contagion, is governed by its own peculiar laws, and has proved very intractable to our efforts. Sometimes the affection is so mild as to require very little or no treatment.

The *two indications* are to restrain the violence of the disease, and to overcome the morbid habit which keeps it up, when the cause having produced it, is expended.

Venesection.—When there is fever with local congestion, or phlogosis.

Local Blood-letting and Blisters, to the back of the neck, or between the shoulders.

Emetics.—Adapted to the cases of children. May be repeated once a day.

Calomel Purges.—The tendency to constipation may also be overcome by castor oil. But the calomel purges are otherwise useful.

Nauseants.—To promote expectoration.

At this stage, a great deal of trust has been reposed in the following counter-agents; which, however, Dr. Chapman respects very slightly.

The Fixed Alkalies, may perform the same service, which they do in common catarrh.

The Narcotics, and Antispasmodics.—These may be palliative.

To break up the morbid association, on which the disease ultimately depends, is the next indication.

Sulphate of Quinia.—This deserves a fairer trial than it has received.

Arsenic.—Highly appreciated by Dr. Chapman, particularly when united with laudanum.

The sulphate of copper has probably a similar efficacy.

Iron.—This is nearly always preferred by Dr. Chapman. It may be combined with quinine.

The tincture of cantharides was highly recommended by Dr. Physick. It was used until strangury was produced.

Dr. Chapman considers it of great importance to obviate the various lesions which may exist in the respiratory organs, stomach, brain, *spinal marrow*, &c.

Of much benefit is freely going out in the open air, when the weather is favourable.

Vaccination has been said to be a counter-agent.

REGIMEN.

A febrile or inflammatory state existing, the diet should be low, and every other part of the antiphlogistic system should be observed. The strictest care should be taken, to avoid catching cold.

CYNANCHE LARYNGEA, OR ACUTE LARYNGITIS.

WAS formerly confounded with *croup*; yet it must be considered a rare disease.

It is the disease of which died Washington, and the Empress Josephine.

SYMPTOMS.

INCIPIENT.—Chilliness; huskiness of the throat; hawking; inspiration impeded, and attended with a whistling noise; no regular cough; voice hoarse, or whispering; pain on pressure of the *pomum Adami*, and some fever.

Or, the disease may commence as a catarrh, or as gastric irritation, which by metastasis is thrown upon the larynx. Again, it may begin as tonsillitis.

There is a variety, moreover, in which, in place of inflammation, there is effusion in the subcellular tissue, called *laryngitis œdematosa*.

MORE ADVANCED.—An aggravation of the preceding symptoms; a sinking, diminutive pulse; cold collapsed skin; strangling produced by an attempt to swallow; and the most violent paroxysmal dyspnœa.

The average duration of the disease is from two to five days, though it may terminate within a few hours.

CAUSES.

Occurs more among males than females; among adults and the old, than the young.

It is brought on by exposure to a cold, austere atmosphere, and by whatever directly, or indirectly, irritates the larynx.

DIAGNOSIS.

Distinguished from *croup*, by the diffusively inflamed fauces, tenderness of the larynx, difficulty of deglutition, absence of cough and raucal intonation, and by the period of life.

In *pharyngitis*, the respiration is unaffected.

PROGNOSIS.

One of the most unmanageable diseases.

AUTOPSIIC APPEARANCES.

Where death occurs from spasms, no lesion is sometimes discoverable. But oftener, the lining membrane is found red and turgid, the sides of the glottis approximated, the epiglottis sometimes swollen and erected, and *effusion of serum, lymph, or pus in the subcellular tissue.*

The trachea is seldom affected. The bronchi are occasionally choked up with secretions, and the lungs œdematous, inflamed, or congested.

PATHOLOGY.

The disease consists in a mixture of inflammation and spasm in the upper part of the windpipe. In this respect it much resembles the early stage of *croup*. But while the latter is so tractable, why is the former so intractable? In *croup* the inflammation is in the mucous tissue, while in laryngitis it is chiefly

in the cellular tissue beneath. Mere swelling from phlogosis is generally great enough in this tissue, to cause the symptoms mostly exhibited in laryngitis; but occasionally an effusion takes place, which produces extreme constriction of the passage. The remedies adapted to the removal of the false membrane, which is the most striking peculiarity of croup, are not adapted to remedy the disorder in the cellular tissue.

The effusion in laryngitis is usually of serum, but in croup it is of fibrin;—which well concurs with the respective ages to which the two diseases are most incident. In youth, fibrin being wanted to supply the growth of the economy, is abundant; but the physical developement having been completed, it becomes comparatively deficient.

T R E A T M E N T.

To overcome phlogosis, so as to prevent suffocation from the closing of the glottis by it, or by the œdematous state subsequently induced, is the great object of treatment.

Venesection.—*Ad deliquium animi.* It should be carried to the extent, not merely of *abating* action, but of *subverting* it. It should be performed also immediately, lest effusion supervene, which will render it nugatory.

An Emetic of tartar emetic, ipecacuanha, and calomel.

Leeches.

Emollient Poultices.

A Blister.

The Inhalation of the Mildest Vapours.

A Calomel Purge.

The antispasmodics have been suggested for a relief of the spasm. Dr. Chapman, admitting that they might be beneficial upon a reduction of action, regards them, still, as doubtful remedies, and has not used them.

Tobacco Cataplasm to the neck, or the smoking of tobacco, where the individual is unaccustomed to its use, is of the highest utility in relaxing spasm; and is, perhaps, conducive to the subjection of the inflammation.

Depleting measures being no longer allowable, resort to sweating with the Dover's powder, and vapour bath, for several hours.

We here should endeavour to discover from physical exploration, whether a part of the affection may not be owing to congestion or œdema of the lungs.

The antimonials may be used with a view of further reducing the phlogosis; and with the same view may we resort to a combination of *calomel*, *opium*, and *ipecacuanha*, which Dr. Chapman predicates to be useful from its confessed efficacy in the cure of reduced states of inflammation generally.

Cases have been alluded to where at first an œdematous disposition is manifested in the throat, descending afterwards to the larynx. These cases, Dr. Chapman is convinced, belong to the lymphatic temperament, and will not bear the loss of blood, except, perhaps, a few leeches in the commencement. Emetics, a blister to the neck, and touching the fauces with a strong solution of lunar caustic, or with the powder of burnt alum, are particularly serviceable.

Dr. Chapman has suggested the plan, when effusion has taken place, of cutting down into the cellular tissue, and evacuating the fluid.

Laryngotomy.—This should not be performed too early, lest the inflamed condition of the larynx be aggravated by the incision, nor should it be delayed until sinking occur.

The operation having been performed, the quiescence enjoyed by the most inflamed part of the larynx is favourable to its cure. The inflammation and tumefaction having subsided, the artificial passage may be allowed to heal. New and improved operations have been invented by Physick, and Carmichael. The chance of success in an operation is greater in the case of laryngitis than in croup, in consequence of the rarity of an extension of the inflammation to the lungs. Of successful operations for croup, Dr. Chapman has collected eleven, for laryngitis, eighteen instances.

CHRONIC LARYNGITIS.

THIS term is used to express a series of chronic degenerations of the windpipe, of which the symptoms have usually no great resemblance to the acute affections of the same structure. The term includes the lesions of both the larynx and trachea.

SYMPTOMS.

The most mitigated form is when the only symptom presented is hoarseness. This affection may last a lifetime without any deterioration.

INCIPIENT.—But in laryngitis proper we have usually an insidious approach, manifested by the following symptoms.—Huskiness of the fauces; difficulty of swallowing; a short, dry, worrying cough; hoarseness, pain, and embarrassment in speaking; a failing of the voice when elevated; a deterioration of it experienced from a transition to either a cold or hot temperature; uneasiness or stiffness in the larynx, speedily converted into a stinging pain, with a constant propensity to gulp; sometimes pain on pressure; spasmodic paroxysms of coughing, with a particular wheeze on inspiration; commonly derangement of the stomach and bowels; an appearance in the throat, when examined, of injection, granulation, aphthous ulceration, hypertrophy of the tonsils, or of elongation and other changes in the uvula. The system, at this period, betrays its disorder only by irritation of pulse, flaccidity of the skin, and diminution of muscular power and mental energy.

MORE ADVANCED SYMPTOMS.—Violent inspiration; voice

very rough, or lost in an indistinct whisper ; periodical dyspnœa ; a hawking up of ropy, or thin mucus, sometimes mixed with puriloid, or purulent matter ; and spasm in the windpipe, occasionally proving fatal.

Or the disease may linger along, simulating genuine consumption, and bearing the title phthisis laryngitis. Here the irritation extends to the chest, and is followed by hectic.

C A U S E S.

Rarely occurs in females. Dr. Chapman ascribes the frequency of its attacks on clergymen, to an original imperfection of constitution, which he regards as more common among them, than others.

The predisposition, he thinks, is laid in the lymphatic temperament, coupled with a false nutrition ; though it also often rests upon a vitiated habit of body, and particularly on irritated or depraved states of the chylopoietic viscera.

The system being vitiated, the disease may be induced by any irritant of the larynx. It may result from the repercussion of acute or chronic eruptions, or to an extension of phlogosis or ulceration of the fauces, either common, scrofulous, syphilitic, mercurial, or scorbutic, &c.

It is often excited by an elongated uvula, or the irritation of a neighbouring tumour, or carious teeth. It is also, at times, tubercular, and may then be either followed or preceded by pulmonary phthisis. It may be generated by inordinate speaking or singing.

D I A G N O S I S.

Distinguish by an ocular examination, from lesions about the fauces, which, by their irritation of the larynx, produce very analogous symptoms. Distinguish, by physical exploration, from phthisis pulmonalis, and certain forms of bronchitis. Take care, also, not to confound it with mere affection of the muscles or nerves concerned in the production of voice.

PROGNOSIS.

Very unfavourable. Cases proceeding from a tubercular or strumous diathesis, almost hopeless.

AUTOPSIIC APPEARANCES.

Inflammation of the mucous membrane of the larynx, though more usually granulations or small ulcers, particularly around the glottis. Conversions of the cartilages into calcareous matter, are sometimes met with. The subcellular tissue may be dense, or swollen with serous effusion, or may contain small abscesses. Tubercles may be discovered.

In the *trachea*, also, may be found granulations, ulcers, or tubercles.

TREATMENT.

The case proceeding from elongated uvula, from syphilitic, or other contamination, &c., we endeavour to eradicate the cause.

The remaining remarks relate chiefly to chronic laryngitis of the ordinary kind, in a sound constitution. The remedies are **General and Local Bleeding, Counter-irritation, and the applying to the fauces, by a brush, Burnt Alum, once or twice a day.** This last is to be done, whether there be inflammation there or not, unless it be very severe. The *modus operandi* of the burnt alum, seems to be the setting up of a new inflammation of a healthy kind, which reaches, by extension, the larynx, and subverts the old.

Depletory measures, however, do not always answer, even in the instances in which tonics are highly aggravatory.

The **Narcotics** are of some value.

Calomel, so given as to produce incipient ptyalism. Adapted to certain syphilitic and ordinary cases, but contra-indicated by depravity of the system.

Emetics.—Suited to the inchoative stage, and cases associated with much affection of the fauces.

Ulcers existing, the compound syrup of sarsaparilla, and the inhalation of certain vapours, as those of tolu, tar, iodine, or chlorine, have been recommended.

The case being desperate, laryngotomy may be performed, a number of cases having turned out favourably under the operation.

The diet is to be accommodated to the state of the system, any thing stimulating being carefully avoided. Exercise should be observed, when the subsidence of phlogosis, and the mildness of the weather, permit. *The voice should be but little employed, and never strained.* The temperature should be equable.

PLEUROPNEUMONIA.

By this term is signified an inflammation of the pleura, and of the cellular or interstitial tissue of the lungs, or, in other words, that tissue between the pulmonary cells. These two inflammations may exist separately—that is, we may have simple pleurisy, or simple pneumonia—but they usually coexist, and can be more briefly disposed of when viewed together. By Andral, the proper seat of pneumonia is attributed to the air-vessels and minute bronchia; and Dr. Chapman admits that by extension, the inflammation may comprehend these parts.

This disease presents either an inflammatory, or more rarely a typhoid character, which latter is to be hereafter considered.

SYMPTOMS.

INCEPTIVE.—Chilliness followed by fever, though the local affection may precede. The latter is, in the formative stage, apt to shift its position, and resemble in the soreness and aching of the muscles, an attack of rheumatism. Finally, however, being fixed in the thorax, we have the

STAGE OF FULL DEVELOPEMENT.—Heavy oppression; acute lancinating pains, or stitches in the chest, much aggravated by a deep inspiration, or coughing, or a recumbent posture. Early in the attack, the pain is increased by lying on the affected side; but the acuteness of the attack having subsided, and effusion having taken place, to such an extent as to interrupt the function of the diseased lung, a lying on the affected side is assumed, for the purpose of affording all possible freedom of expansion to the sound lung. The pain is sometimes sympathetically communicated to the sound side. Occasionally,

even in the most violent inflammations, it is entirely absent, or is obtuse and gravative. The more acute and piercing the pain, the more may the pleura be judged to be implicated.

Inspiration usually hurried and jerking, attended by a hard, dry cough, stifled on account of pain arising from it; expectoration deficient and consisting of frothy phlegm, or thin mucus, though it may gradually become a glutinous, tenacious mass of diverse hues; greenish or yellowish, or varying from a light reddish to rusty colour.

Pulse strong and active, skin hot, headache, and sometimes even delirious wanderings. Great thirst.

FINAL STAGE.—Increased dyspnœa; flagging pulse; reduced muscular strength; low animal temperature; coma, with low delirium; checked expectoration, though there may be sounds indicating accumulations of the secretions in the air-passages. The symptoms are, however, regulated somewhat by the mode of termination, in hydrothorax, or pulmonary abscess, &c.

Either pleurisy or pneumonia may proceed to a fatal termination without a single manifestation.

DURATION.—By prompt and efficient treatment, may be soon cut short; but is, when otherwise treated, apt to be lingering, and, according to Andral, to terminate on the seventh, eleventh, fourteenth, or twentieth day, by a deposit in the urine, or by perspiration.

CAUSES.

The disease is most incident to the robust, and those in the prime of life.

EXCITING causes, are those of the phlegmasiæ generally; and among others, metastasis, or misplacement of gout, or rheumatism. Pleurisy, and pulmonary abscess, are both apt to follow great surgical operations, and are then not plainly characterized by symptoms, are rapid, and almost invariably fatal.

But the great exciting cause, is the damp, austere weather of spring, or winter. Intense cold, itself, is a cause, and proves more operative when gradually, than when suddenly applied. It may also occur with great violence in the summer, in consequence of exposure to drafts of air; of working, especially when fatigued, in cold cellars, &c.

As an epidemic, it spreads to a wide extent, and in a typhoid form.

DIAGNOSIS.

Distinguished from other pulmonary affections by the activity and force of the circulation; the breathing with the diaphragm rather than the costal muscles; the peculiar sputa, and the degree of pain.

When the pleura is alone inflamed, the pulse is hard, corded, vibratory, and accelerated; the breathing quick, short, and restrained; the pain sharp and lancinating, apparently superficial, and aggravated by deep inspirations or coughing, or pressure in the intercostal spaces; the cough frequent and dry, or the sputa deficient and glairy. The pleural covering of the diaphragm being phlogosed, the preceding symptoms are aggravated. The pain, in this instance more acute and spasmodic, is felt along the cartilaginous border of the false ribs, extending even to the flanks. The dyspnœa is excessive.

The lungs, in substance, being alone inflamed, the pulse is fuller, slower, and softer; pain more around the mamma, or under the sternum, or sometimes at the epigastrium, or between the shoulders, and is obtuse, heavy, and deep-seated. Greater labour, though less suffering, is betrayed in respiration; cough is not so constant and violent; expectoration freer, and the matter raised thick and tenacious, and rusty or tinged with blood.

Still the diagnosis is often incorrect.

PHYSICAL SIGNS.—IN PLEURISY.—Before effusion, the chest sounds naturally; but this having occurred, the sound, on percussion, is dull. Where the layer of fluid is thin, the voice has, to an ear applied to the part, a sharp, tremulous sound, like the bleating of a goat, and is hence called agophony.

By *mensuration*, the circumference of the affected side is sometimes half an inch longer than on the sound side.

IN PNEUMONIA.—On percussion, the resonance is commonly dull, or entirely extinct, as in pleurisy after effusion has occurred. Respiration inaudible on the affected side, is puerile or anormally loud on the sound one. Crepitant or crackling rhonchus, owing to a mixture of the bubbles of air with the liquid secretion of the air-cells, is at first of very uniform occurrence. But as the disease proceeds the crepitant rhonchus disappears, the pulmonary cells being no longer permeable to the air. In the positions corresponding to the large bronchi, the breathing is cavernous, and the voice so resounds, as sometimes to produce a real bronchophony. Pus having been infiltrated through the cellular tissue, the *râle crepitant* is exchanged for the *râle muqueux*. The pus collecting at a spot, so as to form an abscess, the rattle becomes cavernous, with a gurgling sound, and when the matter is discharged, the bronchophony is changed into pectoriloquism.

PROGNOSIS.

More unfavourable in regard to infants, or the old, or those with a phthisical taint; and almost uniformly fatal to the confirmed drunkard. Simple pleurisy is easily cured.

In pneumonia, when resolution is taking place, the case retraces the steps by which it advanced.

The thick yellow sputa constitute the means by which the lungs seem to be relieved of their inflammation.

Unfavourable signs, are the supervention of diarrhœa in an

advanced stage, and of excessive secretions, with a sense of suffocation; besides a number of other things, easily suggested by what has been already said.

AUTOPSIIC APPEARANCES.

The *pleura* reddened in points, or streaks, and coated here and there with coagulable lymph; or the pleural cavity distended with a serous fluid, or blood, or pus. The collection of pus in a pleural cavity, is called *empyema*.

The lungs, when cut into, are seen to be reddish, and infiltrated with a frothy sanguineous serosity or lymph, though still cellular and crepitant.

But the phlogosis having proceeded to a higher extent, the lung approaches more the liver in complexion and solidity, having lost its crepitant feel, from an obliteration of the cells. An incision being made, it appears spotted with red, white, and black; and being held before the light, the cells seem filled with small points resembling granulations. This state, from its resemblance to the liver, is called hepatization, which is, according to the colour, either red or gray hepatization. The gray indicates the existence of a higher inflammation than the red. A still more solid state may be discovered, which, from its resemblance to flesh, is called *carnification*. Again, the internal part may be a pale yellow, and discharge on pressure a puriloid or purulent fluid. An imposthume or pulmonary abscess, is very rare.

There is a species of the disease, in which the inflammation does not traverse the membrane which separates the lobules of the lungs, and seems to originate in several points simultaneously. This is called *lobular pneumonia*.

There may be also ramollescence, or gangrene, which is distinguished by its terrible stench.

Several of these states are generally more or less blended.

In children, there is a greater disposition to lobular pneumonia.

Double pneumonia, or that existing in both lungs, is the most

common form in the old and very young. The right lung is more subject to inflammation than the left; though the reverse holds, in respect to the pleuræ.

The mucous membrane, or other organs, are sometimes implicated.

T R E A T M E N T.

A bold and prompt practice is, in this disease, urgently demanded.

Venesection.—Should be copious, and the blood should be drawn in a large stream. Faintness, which is a desirable object, is soonest procured, when the patient stands, and a vein is opened in each arm simultaneously. Yet, since the blood generally needs a considerable reduction, these resorts are mostly unnecessary.

Called at the height of an attack, we should not tie up the arm, until the pain remits, and the respiration is relieved, even though fifty ounces of blood be exacted for the purpose.

The chief exception to this freedom of depletion, occurs in the infirm, and, above all, in drunkards of a phlegmatic temperament. In these last, where there is a predisposition to effusions, dropsy of the pleura or cellular tissue is apt to follow;—together with delirium tremens, and oppressive secretions from the bronchia. Although, in the advanced stages, the lancet may be less freely used, yet, whenever the pulse is active, the skin warm, the pain severe, acute, or gravative, the chest tight, and the respiration impeded, we are justified in resorting to venesection.

The cupped and buffed condition of the blood is not to be too implicitly trusted; since the cup and buff are often absent in the early stage, when it would be right to bleed, and are present at an advanced stage in which it would be wrong.

And again, the symptoms above-mentioned as calling for venesection, may be absent, in consequence of the disease being masked by certain states of the brain and nervous system, when the inflammation is intense. The legitimate symptoms are then unfolded by bleeding.

Cupping, between the shoulders, unless the pain is circumscribed at another point.

Blisters.—Best applied, when a considerable reduction of vascular action has been accomplished. They may, however, be of service in the formative stage.

Emetics.—Valuable, perhaps, as secondary means.

Purgatives.—Particularly useful, where the chylopoietic viscera are involved from miasmatic influence. Here calomel should be used.

Diaphoretics.—The more stimulating are suited only to the forming or closing stages; but, at a more active period, we may employ the sedative diaphoretics. Among these, the *tartar emetic* has acquired an especial reputation. It was given by Rassori, and his followers, in doses varying from a scruple to several drachms in twenty-four hours. It is said, that after a few doses the stomach ceases to suffer from it. But given in such quantities, it is regarded by Dr. Chapman as replete with danger; and it is now, after having had a trial, generally abandoned in this city. Yet in small doses it is an important remedy.

Opiates, should not be administered in an active stage. They are, however, well suited to relieve the cough, which at an advanced period causes a continuance of pain and want of sleep; and at an earlier date, to the attacks of old persons, characterized by irritation of the bronchia, inordinate pituitary secretions, or an aggravating spasmodic cough. Dr. Chapman also uses it early in the case of drunkards; and invariably uses it when he practises venesection, in such instances.

After the more violent symptoms appear to be very considerably reduced, there may continue tightness of chest, with a dry, short cough, difficult and penurious expectoration, slight pain, and irritated pulse. This case is best met by a combination of *calomel*, *opium*, and *ipecacuanha*, repeated at short intervals. This remedy may be assisted by a moderate bleeding, and blisters.

In order that *concoction* or the formation of that critical expectoration by which nature relieves itself, may be induced, the vessels should neither be so vigorous as to secrete lymph, nor so debilitated as to effuse serum. In the former instance they must

be reduced, and in the latter stimulated. Hence results the advantage, occasionally, of the more stimulant diaphoretics.

As soon as a loose cough, and a free discharge of thick tenacious mucus appears, the disease may be considered as broken, and treated as if it were originally of a catarrhal nature, with the demulcent drinks and cough mixtures formerly mentioned.

At this period, we sometimes meet in the aged, or infirm, dyspnœa, and other symptoms of effusion. This condition, with the other sequelæ of the affection, will be hereafter more distinctly noticed.

The patient sinking from exhaustion, we should immediately resort to the carbonate of ammonia and hot wine whey.

TYPHOID OR CONGESTIVE PNEUMONIA.

THAT form of it, which constitutes a secondary affection of certain fevers, has been already treated of. The form now to be considered is what is called PNEUMONIA BILIOSA. This is popularly termed bilious pleurisy, and is exceedingly prevalent in our country.

SYMPTOMS.

The characteristics of common pleurisy, or pneumonia, with a sparing expectoration of phlegm or mucus of a bilious colour, and very apt to be tinged with dark blood, and other slight modifications. But to these symptoms are added many of the features of our autumnal fevers. From the intensity of the headache, the disease has been popularly called *pleurisy of the head*.

The fever remittent, or even intermittent in the beginning, gradually becomes more continued and typhoid.

Generally, the pulse is, at first, full, slow, struggling, and remarkably compressible; the cutaneous surface pale, or mottled, hot, or cold, with clammy perspiration, or the temperature is very unequally diffused. Not arrested, the case proceeds to prostration, exhibiting the lowest forms of cerebral disturbance, and difficult respiration, with wheezing and rattling as in the closing scenes of the worst types of bronchitis.

This delineation applies to the severer cases.

CAUSES.

It is incident to nearly every climate, and to every season. It is sometimes epidemic. As such, it has several times appeared in the United States. In the year 1812, it spread over the country with an unexampled mortality, and then received, as expressive of its local peculiarities, the title of *pneumonia typhoides*, *spotted fever*, *cold plague*. Prevailing endemically, it is found mostly in miasmatic districts.

DIAGNOSIS.

Easily recognised, except when masked, as it sometimes is, in epidemic cases. Physical signs become, in these cases, of considerable importance.

PROGNOSIS.

Of rapid progress, especially in epidemic instances. Dr. Chapman thinks, that at least nine out of ten, perish.

AUTOPSIIC APPEARANCES.

The heaviest congestions of the pulmonary substance, bronchia, pleura, alimentary canal (especially the upper part), of the liver, spleen, peritoneum, the right side of the heart, and the brain.

TREATMENT.

Venesection can *seldom* be pursued,—at least to any extent. A moderate amount of blood, thus taken, sometimes causes the greatest prostration.

Cupping and *Vesication* at the seat of the local affections, wherever they may be. The latter may here be much earlier resorted to than in the inflammatory form.

An Emetic.

Mercurial Purges.

Stimulant Diaphoretics.—They proved the most efficient process in the epidemic which occurred to us some years ago. By stimulating the secreting vessels of the surface, they arrest the passive transpiration which is incident to the disease, and by determining to the surface, unload internal organs.

The **Dover's Powder**, aided by the vapour bath and an infusion of the eupatorium, or pleurisy root, or serpentaria.

On the supervention of a sinking condition, we may resort to the

Sulphate of Quinia, in addition to the diaphoretics. This is peculiarly suited to miasmatic, and especially intermittent cases.

In the final stage, the disease being unmitigated, we use the carbonate of ammonia, with warm wine whey, or toddy, camphor, dry heat, and other diffusible stimulants. Dry heat, however, is a powerful stimulus, and only suited to emergencies.

The disease breaking up, with a view to the assistance of expectoration, resort may be had to the cough mixtures already detailed.

REGIMEN.—In this, and every other variety of pneumonic affection, the patient should be confined to bed, with his head and shoulders considerably elevated, by which much relief is afforded to respiration. A change of posture sometimes affords relief, and is useful in overcoming certain passive congestions.

THE TEMPERATURE should be a medium one. *Fresh air* is, however, a great requisite; and letting in the cold external air, may sometimes prove a useful tonic to the debilitated lungs, restraining their inordinate secretions.

THE DIET should, in the strictly inflammatory states, be of the lowest kind,—mere demulcent beverages. As the case becomes typhoid, it may consist of tapioca, sago, &c., with the addition of a moderate portion of wine, or broth well seasoned.

There seems to be an extraordinary disposition in these diseases to relapses, or more distant recurrences. Rush reports one individual as having had twenty-eight attacks. The exciting causes should, hence, be sedulously avoided.

PLEURITIS ET PNEUMONITIS CHRONICA,

OR

CHRONIC PLEURISY AND PNEUMONIA.

THESE affections are occasional degenerations of the acute inflammatory form, but never of the congestive or typhoid.

Chronic pleurisy is constantly seen in the effusions into the pleural cavity of serum, or pus. That branch of the disease, which terminates in an effusion of serum, is discussed under the head of Hydrothorax.

To phthisical degeneration of the lungs and their serous tissue, will the remarks now made chiefly advert.

SYMPTOMS.

A transitory stitch in the side, or oppression and a hard, dry cough. These symptoms continue weeks or months, attended by remissions and exacerbations. At last, however, the pain, oppression, and cough become more marked, the pulse quick, hard, and febrile, and before long, a well-developed hectic ensues. Digestion is sometimes much disordered, and the stomach highly irritable.

In the closing scenes, the dyspnœa and cough become violent; and there is an expectoration of a glairy, or a thick tenacious mucus, bloody, or puriloid, or purulent, and sometimes so copious as to convey the impression that an abscess has burst. This is, indeed, occasionally true.

The disease is, at other times, much more disguised.

CAUSES.

Besides being superinduced upon the acute affection, it may

be idiopathic or primary, and proceed from cold and other causes of inflammation. But being idiopathic, the constitution in which it occurs, is nearly always a vitiated one.

DIAGNOSIS.

Distinguish from phthisis.

The pleuritic is discriminated from the pneumonic affection chiefly as in the acute form. In the former, also, when there has been effusion, the intercostal spaces are elevated to the level, or even above the level of the ribs. An ulcerative cavity existing in the substance of the lungs, the cavernous rattle and pectoriloquism supervene.

The distinction between a purulent, and a hydropic fluid in the pleura, is to be drawn from the general condition. The purulent expectoration of empyema is distinguished from that from the lungs, by a garlicky odour.

PROGNOSIS.

Chronic phlogosis is, in itself, manageable; but empyema, or purulent infiltration, having taken place, the case becomes a serious one, and particularly in a vitiated constitution.

Empyema usually seeks an external opening. But the purulent secretion is apt to continue, and the passage to become fistulous.

AUTOPSIIC APPEARANCES.

Essentially the same with those of the acute variety.

The lungs are often found of diminished size, from the contraction of the false membranes on the pleura, and the compression of a fluid in its cavity.

In connexion with chronic pneumonitis, we often observe the mature developements of phthisis.

Purulent infiltration of the cellular tissue is rarely, and an abscess almost never, detected.

The abscess, constituting the apostematous consumption of

the older writers, is formed in a cyst of coagulable lymph poured out from the pleura on the pulmonary surface. The enlargement of this abscess occasions a gradual compression, and such a diminution of the lung, as sometimes to induce the notion of its entire destruction.

The bronchia are, at times, implicated, and may be found either contracted or dilated.

TREATMENT.

The leading object is to prevent structural lesions.

Bleeding, General and Topical.

Counter-irritation.

The Antimonials.

Low Diet.

The phlogistic condition having thus been reduced, we resort to

Mercury.—To obtain the constitutional effect betrayed by ptyalism. It is, however, *contra-indicated by the tubercular disposition. Of all remedies, mercury is most efficient in arresting organic changes in the great viscera, or their envelopes.*

For the absorption of pus, when it has been secreted, a slender hope is afforded in the employment of

Active Purgation, and The Diuretics.

Iodine, internally and externally applied, has been much recommended. Dr. Chapman has not, however, seen from it the advantage promised by its friends.

This treatment proving nugatory, a resort may be had, in empyema, to *paracentesis thoracis*, which has sometimes been successful. Though it is likely to effect no permanent benefit in old cases, it may afford relief; and may, in more recent cases, be followed by a cure. But it should be performed only in an emergency.

The other treatment is similar to that in analogous states of tubercular consumption.

DISEASES OF THE SENSITIVE SYSTEM.

APOPLEXIA, OR APOPLEXY.

SYMPTOMS.

PREMONITORY.—May supervene without premonition; but is usually preceded by pain in the head, acute or dull; vertigo; drowsiness; flushed face; strange noises in the ear; disorder of vision, hearing, or taste; hebetude of mind; deep inspiration; numbness of the fingers; paralysis of the muscles of the face; a full irregular pulse; cramps, or a sense of fulness, in the stomach.

OF THE PAROXYSM.—Mostly the individual falls down suddenly, deprived of sense and voluntary motion, and apparently as if in a profound sleep; with a florid or livid countenance, stertorous breathing, frothing of the mouth, a dull, slow, interrupted circulation, hot head and cold feet, and little or no power of deglutition.

SYMPTOMS *when probably the stomach is primarily in fault.*—Preceded by pain in the head; severe stricture across the forehead; a feeling of drawing in the muscles of the back of the neck; vertigo; great confusion of ideas; tremors of the limbs; præcordial oppression; cramps of the stomach, or bowels; nausea, or vomiting; pallor of the face; universally cold surface; and an irregular pulse. Afterwards may succeed convulsions, or paralysis (mostly hemiplegia), and other marked symptoms.

In either the cerebral or gastric variety, life may be extinguished at once. But this is seldom.

Rupture of the heart, or large vessels, is sometimes mistaken

for apoplexy. A fatal paroxysm of apoplexy seldom ends sooner than some hours, and usually endures several days.

The paroxysm having lasted for some time, it is not unusual for the full, florid countenance to be exchanged for the pallid one; or, on the other hand, for a more inflammatory action to be set up, with a hard, full, accelerated pulse, warm skin throughout, injected eyes, dilated or contracted pupils.

When health has been restored, in other respects, the paralytic affection, where it exists, is little improved, and the mind long remains impaired.

C A U S E S.

PREDISPOSING.—Apoplexy occurs, usually, after the meridian of life; and the period most subject to it is said to be between the ages of sixty and seventy. The male is much more inclined to the disease than the female. It is often found in men of large head, florid complexion, short thick neck, broad shoulders, expanded chest, tumid abdomen, low stature, and sanguine temperament.

Other predisposing causes are habits of intemperance, or inactivity; extremes of temperature; antecedent lesions of the brain, or its meninges, and especially degenerations of the cerebral vessels, in consequence of chronic, and perhaps latent, inflammation; derangements of the heart, great vessels, lungs, or any of the abdominal viscera, tumours of the neck, and whatever else may disorder the circulation. But particularly productive of apoplexy, is hypertrophy of the left ventricle of the heart.

EXCITING.—Excesses in eating and drinking, or irritating ingesta; narcotics; worms; offensive sordes in the bowels; constipation; the suppression of an habitual discharge; the repulsion of cutaneous eruptions; exposure to the sun, or hanging the head over a fire; long continuance in a warm bath, or the shock of a cold bath; long exposure to a low temperature, and especially the use of stimulating food or drink under such circumstances; violent exertion of the body, especially in a bent position; intense mental exercise; loud haranguing, &c.

DIAGNOSIS.

Paralysis of the brain, and in some of its forms coma, and lethargus, are essentially of the same pathological condition.

In *epilepsy* there is much spasmodic and convulsive movement, and especially of the muscles of the face, while in apoplexy there is a suspension of action in the voluntary muscles. In epilepsy, the muscles are rigid; in apoplexy, relaxed. The paroxysm of the former soon passes off.

A *fit of intoxication* may be distinguished from apoplexy, by an inquiry into the history of the case, by the odour of the liquor in the breath, and by a retention of sensibility in the upper lip to the impression of water dropped upon it.

Distinguish from *rupture of the heart*, or of one of the great vessels, by death being in the latter case immediate, and the corpse being pallid.

That form of the disease radicated in the alimentary canal, may be diagnosticated by the previous occurrence of dyspeptic symptoms, or by the patient's having been engaged in a debauch, or having swallowed a narcotic substance. The symptoms of the paroxysm differ also. The stomach being the primary seat, there is usually much nausea or vomiting, the face pallid, skin cold, the pulse weak and diminutive, and the respiration comparatively little disturbed. The case very often resembles syncope. Cases originating in the uterus, &c., may be determined sometimes from their history.

PROGNOSIS.

The disease being uncomplicated with palsy, or, arising from some abdominal disorder, is the more curable. The danger, however, really depends upon the question, whether there be merely vascular congestion, or extravasations from rupture of vessels, or otherwise, or effusions from pre-existing irritation, or inflammation, or some of those derangements of structure, which are to be noticed. Recoveries sometimes take place even after the extravasation of blood.

Apoplexy, in its more vehement forms, is always a most fatal disease.

Symptoms of bad import are a weak, or exceedingly slow, or an irregular, and especially an intermittent pulse, or one not rising after venesection (showing that extravasation has occurred), very expanded or contracted pupils, convulsions, and particularly when of one side only, &c.

AUTOPSIIC APPEARANCES.

The arteries, and veins of the brain and its meninges turgid, or even heavily engorged. Or only a portion of structure is involved. Most commonly, extravasation of blood, which may be deposited either on the surface, or, as is more frequent, in its substance. It is met with between the membranes, on the exterior, throughout the internal cerebral structure, about the basis of the brain, and in the ventricles. It may be pure and of florid colour, or dark grumous, or concreted, and may vary in quantity from a few drachms to as many ounces. The surrounding brain may be either softened, or hardened. Sometimes the extravasations are serous or gelatinous. Acute inflammation is not seldom discoverable.

Besides, may be sometimes observed organic changes, and degenerations of the brain, or its envelopes, or disease of other parts of the body. These are, however, rather the causes of the affection.

Fatal cases of apoplexy may occur without any appreciable change on dissection. Such instances may result from mere congestion; though excessive doses of opium, and ardent spirits appear to extinguish life, independently of the disorder they induce in the circulatory and respiratory organs.

PATHOLOGY.

The proximate cause of apoplexy, in most instances at least, is *compression*. This has been denied by M. Serres, of Paris, who asserts the incompressibility of the brain. But his experiments are nullified by the more cogent facts derived from other

sources, which show the symptoms of apoplexy to disappear immediately upon the removal of the coagulum, or pressure otherwise exerted, and the symptoms of apoplexy to supervene directly upon the application of artificial pressure to the brain. By M. Serres it is also alleged that the absence of palsy indicates the non-implication of the brain, and its presence the implication of that organ. This is doubted by Dr. Chapman.

Abercrombie declaring that the cavity of the cranium is always perfectly full, concludes, of course, against the possibility of any further accession of blood. He says, there is no more blood in the cranium in apoplexy than in any other state, and ascribes the disease "to an interrupted circulation in that organ from more blood entering from the arteries than can be returned by the veins." But if more blood enters by the arteries than can be returned by the veins, then his premise, that the cavity of the cranium is always full, cannot be true.

Those cases of supposed apoplexy, which have been reported as being unconnected with any lesions of the brain, or its envelopes, may have been really instances of rupture of the heart or a great vessel; or of hardening, softening, or other alterations of the brain, until recently overlooked; or they may have been affections of the ganglionic system of nerves; or the blood may have been retracted from the cerebral vessels by copious depletion, when it was, however, too late for the brain to recover from the effects of its previous compression, or retracted, as happens sometimes in inflammations, in the article of death.

But while it is contended that the lesion of the brain giving rise to apoplexy, is usually dependent on compression, yet it must be admitted that the same condition may exist independently of compression; and this is what was formerly called nervous apoplexy.

Nosologists have commonly divided apoplexy into the sanguineous and serous varieties. But such a classification has no practical advantage. The better arrangement is into that form which is a *primary* affection of the brain, and that which is *symptomatic*.

TREATMENT.

The head should be made to assume an elevated posture; all ligatures should be loosed, the boots or shoes should be drawn off, and fresh air admitted freely to the room.

The skin is sometimes cold and collapsed, and the circulation extremely feeble. Here we must resort to the diffusible stimulants. But a state of high sanguineous action existing naturally, as it nearly always does, or having been excited by our stimulants,

Venesection becomes the most efficient remedy. This may be carried usually to the extraction of thirty or forty ounces of blood in a robust individual, and may be required to be several times repeated. It being advantageous to draw the blood with rapidity, a vein is frequently opened in each arm; but when the general action is feeble, the blood should be taken cautiously.

The success of venesection is greater in simple congestion, than in extravasation.

Local Bleeding.—By leeches or cups, or by a section of the temporal artery, or opening the jugular vein. The darker colour of the blood drawn from the jugular vein than that from the arm, would lead us to expect peculiar advantage from topical bleeding in this instance. Leeches to the anus, in imitation of hæmorrhoids, might be advantageously tried.

Cold Applications to the Head.—At first should be employed cloths wrung out of cold water. Such intense cold as ice, is only applicable to the highest state of reaction, when inflammation is menaced.

Revulsion by sinapisms to the lower extremities.

Emetics.—Especially to be used when the disease results from a loaded stomach, or from narcotic poisoning, or when the apoplexy has no sanguineous connexion. If we could ascertain that the condition of the brain was that of mere turgescency, we might perhaps employ emetics in other instances than those above-mentioned. But it would be wrong to employ the measure in the case of extravasation.

Active Purgatives.—Calomel, and its common adjuncts,

castor oil and oil of turpentine, elaterium, or croton oil. To be given just after venesection, unless an emetic should be interposed. When the patient cannot swallow, the medicine may be introduced by the œsophagus tube. Stimulating enemata may be combined. The purgation may be repeated daily.

Such a course having been pursued, and the case not relenting, if the disease be of purely gastric origin, the

Diffusible Stimuli may be resorted to. It being of primary cerebral origin, however, antiphlogistics are commonly used. Here, also, may we apply blisters, first to the back of the neck, then to the scalp, and finally to the extremities.

Mercury.—To be used internally, and externally to the shaven scalp. It is suited to the cases in which an extravasation is to be absorbed, and is useful in correcting the secretions.

A sinking condition coming on, the diffusible stimulants should be tried; though death under such circumstances seems to be inevitable.

As a great tendency remains to the reproduction of apoplexy, the causes should be sedulously avoided, and the least premonition of the disease being given, blood-letting and other antiphlogistics are demanded.

PARALYSIS, OR PALSY.

DEFINITION.—Either a loss of power in the muscles, or loss of sensation, according as the nerves of motion or sensation are affected; or both these states may be united.

By **HEMIPLEGIA**, is meant palsy of one side of the body, from the head downward. By **PARAPLEGIA**, is meant palsy of a part separated by a transverse plane, from the hip downwards.

There may be also general palsy (which, however, perhaps never occurs except in apoplexy), and partial palsy, as of a limb, or of a particular sense.

Hemiplegia is more uniformly originated in the brain, and connected with cerebral disturbance, than paraplegia.

SYMPTOMS.

Paralysis may, as has been mentioned, be a symptom of apoplexy, or it may, though independent of that disease, be preceded by a train of symptoms much like those belonging to it, or it may supervene gradually during weeks, months, or years.

The part assailed becomes flaccid, numb, cold and pale, with sometimes convulsive twitches. The sound muscles, being deprived of antagonists, are contracted. The bowels are usually torpid, though the sphincter ani, or the sphincter vesicæ, being paralysed, the excrement escapes involuntarily.

The symptoms will obviously vary according to the seat of the disease, which may affect the nerves of any part of the body. Of viscera, the lower bowels and urinary bladder are most frequently affected.

In paralysis originating in the brain, the mental faculties are apt to become weak or disordered.

PARALYSIS AGITANS, OR TREMBLING PALSY, usually commences in tremors of the hands or head. It may thus remain for even forty years; but commonly advances until it pervades the whole body.

Being of an apoplectic character, paralysis is prone to run to a speedy and fatal termination; though in other cases it may be rapidly cured, yet on the whole the cures are slow. Often, after a rapid improvement in the beginning, the case becomes almost stationary.

CAUSES.

Both the predisposing and exciting causes are much the same with those of apoplexy.

Paraplegia and local paralysis, however, more frequently proceed from some lesion of the spinal marrow, or of the nerve supplying the part.

The influence of lead is a common cause. Mercury and arsenic are said to be productive of like effects. The application of cold to a system previously heated, is in some places a prolific source of the disease. Being associated sometimes with intermittent, or other autumnal fevers, miasma has been suspected to be an agent in its creation.

DIAGNOSIS.

Palsy and apoplexy are mutually convertible diseases, and may coexist.

The principal point is to determine the primary seat of the disease; whether in the brain, spinal marrow, nerve, or any particular viscus. This must be done by the associate symptoms.

PROGNOSIS.

In proportion as the individual is older, so is the difficulty of cure the greater.

Secondary or sympathetic palsy is more favourable than pri-

mary ; and palsy radicated in the spinal marrow more curable than that of the brain. Dr. Chapman has long observed that palsy of the right side is more intractable than that of the left.

The first indication of returning sensibility is frequently a sense of formication, or a feeling like the creeping or stinging of ants.

AUTOPSIIC APPEARANCES.

In paralysis seated in the brain, like those of apoplexy. It seems, from the contradictory reports of others, that no confidence can be placed in the allegation of those who state that paralysis of a certain part is always referable to a lesion in the same portion of the brain.

We most uniformly find the seat of the lesions connected with palsy, to be about the corpora striata, thalami nervorum optico-rum, and the medulla oblongata.

Similar phenomena are also observable in the spinal marrow, and the nerves, when they are the source of the disease.

When the affection is of cerebral origin, the lesion will be found on the side opposite to that in which the paralysis is manifested.

P A T H O L O G Y.

Like apoplexy, to which it is nearly allied, palsy seems mainly to depend on pressure, whether we have regard to its being seated in the brain, spinal marrow, or individual nerves. The essential pathological difference between the two affections, consists in the degree and extent of the pressure, it being greater in both respects in apoplexy. But the energy of the nervous centres may be interrupted, it must be admitted, independently of pressure.

There is one modification of the disease which seems to result from a want of irritability of the muscle ; and which, from its being usually brought on by cold, might be perhaps referred to rheumatism.

TREATMENT.

1. IN THE ACTIVE STAGE, the measures are Antiphlogistic, and similar to those in the similar state of apoplexy. Dr. Chapman, however, insists upon the importance of Active and Persevering Purging. The disease being seated in the *spinal marrow*, the local applications must be, of course, accommodated.

Tracing the attack, however, to *cold*, after these preliminary measures, sweating by the Vapour Bath, and the Dover's Powder, may be singularly successful.

In *secondary* paralysis, the nervous centres being usually in the same pathological condition as when they are primarily affected, we should direct at first the same measures as in primary paralysis; but this having been done, we should proceed to eradicate the disease, upon which the lesion of the nervous centres depends.

In PARALYSIS AGITANS, we should direct our remedies chiefly to the medulla oblongata, where it is probable the lesion is situated.

In LOCAL PALSY, if the affection depend upon pressure on the nerve by a tumour, this should be removed by an operation. In other cases it is usual to employ Local Depletion and Counter-irritation, as near as possible to the root of the affected nerve. Sometimes general depletion is demanded.

2. In this stage, phlogosis, congestion, or irritation, is presumed no longer to exist. Here the *internal* and *external* Excitants are indicated. Of the former, ammonia and mustard seeds are entitled to a high regard. But as an internal medicine, mercury, also, is of very great importance.

Of *external* applications, may be mentioned a series of blisters, issues, setons, moxas, rubefacients, the hot or cold baths, frictions, &c.

From the internal use of strychnia, or veratria, and the application of electricity, galvanism, and electro-galvanism, Dr. Chapman has seen little advantage.

The practitioner should be very cautious not to recur too speedily to the stimulating measures, remembering that, for the most part, especially in the beginning, the disease is one of oppression, and not of debility. Even in chronic states of it, we may find the pulse hard and corded, with other symptoms of a febrile movement, or it may be low from oppression. Under such circumstances, renouncing all tonics, we should betake ourselves to evacuations, and especially to purgation by elaterium, which will be found to recruit the strength by a removal of the disease.

The local applications, it may be again mentioned, should be made as nearly as possible to the seat of the lesion in the nervous centre; or, when the nerve is affected, as nearly as possible to its root. Frictions may be sometimes employed to the muscles, when the disease seems to be primary to them, and there is no excitement.

The *prevention* of palsy is similar to that of apoplexy.

EPILEPSIA, OR EPILEPSY.

SYMPTOMS.

FORMING.—The paroxysm may occur without any premonition, or it may, as is more common, be preceded by languor, pain, or giddiness in the head, ringing or buzzing in the ears, fulness of the cerebral vessels, &c. On other occasions, the first intimation is the utterance of a loud scream or screams. Besides, there may be vomiting, or pain in the bowels, with looseness, or the reverse—constipation,—difficulty of respiration, palpitations of the heart, rumbling of wind in the intestines, and a rushing of it to the throat, copious discharges of pellucid urine, coldness of the extremities, &c. But the most extraordinary indication is what is called the *aura epileptica*. This is a sensation like that of a gentle breeze, or of a stream of water, or of the creeping of insects, which, arising generally at the extremities, proceeds to the head, upon reaching which, coma or convulsions ensue.

OF THE PAROXYSM.—This being mild, the patient, without falling down, may be affected only by a shaking of the head, or agitation of the extremities, with frothing of the mouth, and distortion of the features; these symptoms being succeeded by sleep and recovery.

At other times the attack may amount to catalepsy, in which the position is firmly maintained, with general rigidity of the muscles, and mostly, with a state of stupor.

More frequently, however, the individual, after a horrible shriek, falls to the ground. The muscles are contracted, as in

tetanus, or are affected with convulsions. The countenance is pale, or livid, and hideously deformed.

DURATION.—May continue from a few minutes to many hours. The average duration is probably fifteen or twenty minutes. After the subsidence of the symptoms, the patient falls asleep, or is completely aroused.

The **FREQUENCY** of the paroxysm varies from the intermission of a very short time to that of a day, week, month, year, or more.

TERMINATIONS.—Death seldom takes place in the paroxysm, though occasionally it degenerates into apoplexy, and thus proves fatal. Continuing any great length of time, the stomach is apt first to give way; there may be pain in the head, weakness, emaciation, paralysis, and decay of the intellectual faculties, or furious mania. But examples are numerous, where the disease has existed during a long life, without mental or bodily suffering.

CAUSES.

PREDISPOSING.—It is often found in those with a nervous system of extraordinary sensibility, or irritability, or mobility, acutely alive to all impulses, physical or moral. Thus it has often occurred to men of the highest order. But, on the other hand, we find it associated with stupidity, or even fatuity.

It is most incident to childhood. It may be hereditary. Various lesions of the brain conduce to it, proceeding from injury, intemperance, excess of venery, &c.

EXCITING.—Great exertions, violent emotions, certain sensations, or the mere force of imitation.

These are the causes of *primary* cerebral epilepsy. The disease, however, may proceed secondarily from lesions of the spinal marrow, or of a nerve.

It may arise also from irritations in the alimentary canal,—

especially from dentition, worms, constipation, an excess or improper quality of the ingesta, narcotic, or other poisons. It arises also from irritations of the uterus, bladder, or other parts; from the repercussion of eruptions, the sudden arrestation of old discharges, hyperæmia, and perhaps anæmia.

DIAGNOSIS.

Distinguish from hysteria by the great change of countenance,—the livid aspect, the fixed or staring expression of the eyes, gnashing of the teeth or firmly clenched jaws, foaming of the mouth, and the speedy subsidence into a tranquil sleep, or heavy stupor. Hysteria is accompanied by the *globulus hystericus*, by sudden transition from laughing to weeping, &c. But the case may be complicated with hysteria, or apoplexy.

The disease proceeding from a lesion of the spinal marrow, the convulsions are extremely violent, and sometimes of a tetanoid nature, and the lesion may sometimes be detected by pressure on the spine. In a lesion of a nerve, besides the presence of tenderness, we may also be directed by the paroxysm being perhaps more apt to be preceded by the aura epileptica.

Its dependency upon an irritation in some remote organ or tissue, must be determined by the associate symptoms which usually characterize such a condition.

PROGNOSIS.

More unfavourable when the disease is primary, or where it supervenes after puberty, or has long continued.

AUTOPSIIC APPEARANCES.

When the disease proceeds from the brain, the phenomena resemble those of apoplexy and palsy; and also, when from the spinal marrow, there are similar phenomena, only seated in the latter substance.

When the disease is secondary, the appearances, of course, are exceedingly diversified.

PATHOLOGY.

(1.) The disease commencing in cerebro-spinal nervous irritation, the blood-vessels soon become involved in an irregular circulation, with topical congestion or inflammation, and particularly of the brain.

This pathology is substantiated by a reference to the causes, the symptoms, the necroscopy, the mutual convertibility of this disease, and apoplexy, and palsy, into each other, and their analogy, and lastly by the mode of cure. The essential condition of the disease is cerebral irritation; this may either be primary or it may be secondary to the irritation of the spinal marrow, a particular nerve, or of remote parts of the body.

This pathology is very similar to that of apoplexy and palsy. The difference in the manifestations, may perhaps be ascribed to the varied grades of violence, or to the particular seat of the lesion,—irritation of the medulla oblongata being said to produce epileptic symptoms.

(2.) But the cerebral irritation may be as well connected with a deficiency as an excess of blood. This form of the disease bears more resemblance to syncope. It might be regarded as spurious epilepsy.

Yet there are cases in which true epilepsy is accompanied by no appearance of cerebral fulness. These, however, are commonly found in old states of the disease, in which probably the susceptibility of the brain has become so great as to produce the paroxysm under the operation of only a very moderate cerebral determination.

TREATMENT.

1. OF THE PAROXYSM.

a. IN THE ORDINARY PRESENTATION. The patient should be at once placed in a position in which his head is elevated; and all ligatures, particularly the cravat, should be loosened. The convulsions being violent, the patient should be held down, and a tourniquet applied to the arm and leg of opposite sides. A piece

of cork should be interposed between the jaws to prevent laceration of the tongue; by which, also, the paroxysm is said to be sometimes arrested. The same effect is said to result from opening the fingers when firmly clenched; of the efficacy of which Dr. Chapman has seen several instances.

Nervines, stimulating frictions, sternutatories, &c., are to be excluded.

Cold to the Head.

Stimulating Pediluvia.

Active Enemata.

Emetics judiciously used. They are chiefly, though not solely, adapted to the cases of primary gastric irritation.

Blood-letting.—General, or local. Suited to cases with vascular fulness and excitement. It may obviate a conversion of the paroxysm into apoplexy or palsy.

b. IN THE FORM RESEMBLING SYNCOPE, CALLED LEIPOTHYMIA. The object here being to replenish the cerebral circulation, the *head must be lowered*; we must employ frictions, the fumes of ammonia to the nose and internal stimuli, and a sinapism to the back of the neck, or to the epigastrium, or to both.

2. TREATMENT OF THE INTERMISSION, or treatment for a radical cure.

It is important to ascertain the primary seat of the disease, the occasion of it, and the condition of the vascular system.

Venesection.—When the system is full, which it generally is, and especially in the primary cerebral, or the uterine variety.

Local Bleeding may sometimes be substituted.

Emetics.—Especially suited to the gastric variety.

Purgatives.—Useful by reducing the system, effecting derivation from the brain, and removing irritating contents from the bowels. It should be steadily persevered in. But its employment, like the other measures, should be made to accommodate the indications.

Cups, or Leeches, and Blisters, or Moxas, to the seat of the *local lesion*, whether in the brain, spinal marrow, uterus, stomach, or elsewhere. Repelled eruptions should be solicited

by stimulating frictions; or replaced by a pustulation with tartar emetic ointment.

The anthelmintics and emmenagogues should be used, when demanded.

Some cases proceeding from depressed portions of cranium, or the irritation of tumours, are curable by a surgical operation.

This is Dr. Chapman's early treatment of the disease, though it is far more common to rely upon tonics, nervines, or stimulants.

These remedies, though injurious at first, may become admissible, when we have as much as possible removed, by the course already detailed, irritation, congestion, or inflammation. But on the recurrence of a phlogistic condition, they should be immediately relinquished for a repetition of old measures. In such instances antimonials are valuable.

Of **Tonics**, the phosphate of iron, and quinine, are the best.

The preparations of zinc, and copper, especially the sulphate of copper and arsenic, are entitled to some regard. The nitrate of silver, in large doses, has acquired a great celebrity.

Of narcotics, and nervines, it can be only said, that they allay the mobility of the system, and may be used as palliatives. Opium is to be preferred.

Electro-galvanism may have, perhaps, some claims to attention.

Epilepsy is rooted ordinarily in some positive lesion, and when chronic, mostly of an organic nature. In such a condition, mercury, given in alterative doses, is our most valuable resource.

In the **LEIPOTHYMIAC** variety, iron, a nutritious diet, and other means calculated to enrich the blood, are indicated.

PREVENTIVES.

The patient feeling the aura epileptica, may succeed, sometimes, in preventing the paroxysm by pressure on the nerve. Pressure on the epigastrium seems sometimes to succeed.

The paroxysm being looked for at a certain time, an anticipatory detraction of blood, with cold to the head, and a stimu-

lating pediluvium, are recommended, when there is cerebral determination, or vascular excitement. In other instances an opiate answers better. In the gastric variety, an emetic may be demanded.

REGIMEN.

The diet should be adapted to the pathology. Moderate exercise on foot is desirable. The cold, or salt bath is sometimes of service. Quietude of mind should be carefully preserved.

HYSTERIA, OR HYSTERICUS.

SYMPTOMS.

A MOST Protean and imitative disease.

It may be preceded by various *nervous* phenomena, præcordial tightness, flatulence, nausea, or vomiting; or may come on suddenly. On the latter occasion, the earliest indication is constriction of the chest, pain about the flexure of the colon, with a sense of fulness, and a rumbling which advances to the stomach, and thence to the throat, occasioning pressure as of a ball lodged there, and called *globus hystericus*.

The preceding symptoms are soon followed by coldness and shivering, a fluttering pulse, and such acute pain in the head as to be compared to the driving in of a nail, and hence called the *clavus hystericus*. The chilliness is followed by no reaction. Convulsions ensue, varying from the slightest to the most violent. The trunk is contorted backwards, or forwards, or to the sides, the limbs are agitated, the hands clenched, the sphincter ani firmly closed, while the sphincter of the bladder may be relaxed, and emit copious streams of pellucid urine. During this period there are wild shrieks, incoherent expressions, alternations of laughter and crying, and a constricted respiration.

As the paroxysm subsides, deep sighings or sobbings take place, eructations of wind, a gradual restoration of the senses, but without any recollection of the events of the paroxysm; though sometimes, long after the subsidence of the fit, there remains a state of stupor, with flushed face, or, on the other hand, a pale cadaverous appearance, with great languor. There may be either a single paroxysm, or a succession of them for several days.

CAUSES.

May occur either in the male or female sex, though it is far more frequent in the latter. It hardly ever occurs prior to the age of puberty, or in advanced life. Single women and young widows are most liable to its attacks. It is most prone to affect the temperament of mobility, and sensitiveness, and the feeble.

Its foundation is often laid in uterine disease (as the name imports); dyspepsia, or worms; lesions of the brain, or spinal marrow; and languor or depression following undue excitement, or attending misfortunes.

But it may be at once excited by strong mental emotions.

DIAGNOSIS.

Be careful to ascertain the origin of the disease. Proceeding from a uterine, or gastro-enteric affection, it will be probably accompanied by symptoms, which when duly weighed will indicate the primary source of irritation. Being of primary *cerebral* origin, we find headache, a florid face, vertigo, tinnitus aurium; while its arising from the spine, is denoted by tenderness of some portion of the spine, and the violent tetanoid spasms.

PROGNOSIS.

There have been few cases reported of a fatal issue of the paroxysm. The disease may, however, degenerate into epilepsy, or mania.

PATHOLOGY.

An exalted excitement, congestion, or phlogosis of the brain, which is either primary, or the consequence of an irritation of the spinal marrow, uterus, alimentary canal, or other part.

TREATMENT.

1. OF THE PAROXYSM.

The milder attacks are usually treated by the application of pungent odours to the nostrils, or the internal administration of the antispasmodics. But Dr. Chapman is very distrustful of these measures, and when any great amount of cerebral affection exists, they do harm. *Dashing cold water on the face, with sinapisms to the extremities*, is a better practice.

An Emetic.—Almost always restores tranquillity, and obviates a renewal of the paroxysm.

Purges and Enemata.—Particularly where we suspect irritating colluvies in the intestines, or where constipation exists.

Nervines and Antispasmodics.—Opium does not answer so well as assafœtida and camphor.

The *tourniquet*, applied to the arm and leg of opposite sides, may be serviceable in violent convulsions.

In cases marked by permanent stupor and flushed face, general and topical bleeding, a blister to the nape of the neck, cold to the head, and stimulating pediluvia, are demanded.

2. OF THE INTERMISSION.

The indication is to obviate the disorder of whose irritation the hysteria is an effect. This being removed, we may resort to the nervines.

The mind should be diverted, and kept happy. Green tea, and coffee, should be avoided, and the digestive organs well regulated.

CHOREA, OR ST. VITUS' DANCE.

SYMPTOMS.

THE invasion may be sudden, though it is usually preceded by a depraved, and often ravenous appetite, loss of vivacity, tumefaction, and occasionally pains, in the abdomen, constipated bowels, vitiated stools, and more or less of the cachectic aspect.

The disease commences by a slight involuntary motion of different muscles, particularly of the face, then of those of the extremities,—the one or the other having precedence, they being rarely affected simultaneously. For example, when the arm is attempted to be raised, it is thrown into irregular convulsive action, or an effort being made to walk, the same happens, till, by continuance, the whole external muscular system participates, even to the impeding of deglutition, articulation, &c. In a state of repose, all the movements cease, to be revived by the most trivial excitement.

Chorea is at first mostly a paroxysmal affection, with several attacks daily, or at longer intervals; but, not arrested, it degenerates into a permanent condition, with scarcely any interruption, except in sleep. Generally the mental and physical constitutions suffer very materially in the progress of the disease.

CAUSES.

Though incident to childhood, maturity, and old age, it is most apt to occur between the ages of eight and fourteen. It seems equally prone to attack all temperaments. It is caused by irritations of the alimentary canal, or uterus (being connected

with the suppression, excess, or vitiation of the uterine discharge); by the recession of eruptions, or the healing up of old ulcers, &c.; cerebral, spinal, or nervous lesions; mental emotions, and imitation.

DIAGNOSIS.

We must endeavour to determine the location of the primary irritation.

PROGNOSIS.

Little immediate danger, though the degenerations of the disease have proved distressing, or even destructive of life. Occurring before the age of puberty, a good hope is afforded that the changes effected by that epoch, may eradicate the affection.

AUTOPSIIC APPEARANCES.

Not very certainly ascertained, yet we may presume them to be the same in kind, with those of analogous affections.

PATHOLOGY.

In most instances the original seat is in the *primæ viæ*, or rather in the system of ganglionic nerves, and particularly the abdominal plexus, from which the impression is extended to the brain. The latter happens, whatever may be the primary point of the lesions, whether in the spinal marrow, or any other portion of the body. An irritation without such cerebral affection, could not be productive of the characteristic phenomena of chorea. Although we do not know precisely the nature of the pathological condition of the brain, it may be presumed to be similar to that of the kindred diseases. We may suspect that the basis of the brain, and especially the *medulla oblongata*, is the part affected.

TREATMENT.

As in the associate affections, we must regard the general condition of the system, and the primary seat of the affection. In a *phlogistic* condition it may be requisite to *bleed*; and where the bowels seem to be the inceptive point of the disease, persevering *purgation* may be serviceable. Afterwards, or in an originally feeble condition of system, the *vegetable and mineral tonics* may be resorted to. Of the former, the *cimicifuga* has acquired a great reputation. Of the latter, Dr. Chapman recommends, in particular, the *subcarbonate of iron*.

To allay the muscular *spasms*, the *nervines and narcotics*, have been used. *Opium* is probably the best. Electricity and galvanism have not been very successful. An *alterative course of mercury* is often of great service.

Local irritations must be combated by local bleeding and counter-irritation. But it should be recollected that in whatever part of the body the irritation may have originated, the cerebro-spinal axis ultimately becomes the subject of it, and that these measures should be addressed to it, as well as to the primary irritation.

REGIMEN.

The diet should conform to the general plan of the treatment. Cold, and especially salt bathing, is of great utility, when reaction follows. Exercise, and the regulation of the mind, are pre-eminently useful.

TIC DOULOUREUX, OR NEURALGIA.

A DISEASE first distinctly noticed in the year 1756, by M. Andre, of France. The disease probably existed before, but was known by other names, as rheumatism, toothache, *clavus hystericus*, &c.

The term neuralgia signifies *nerve-ache*.

This disease may affect any of the nerves in the body; and being seated in the nervous centre, the pain darts along the nerve to its minute ramifications, or conversely, arising at the branches, may be reflected on the centre.

But in its course, it is apt to entangle other nerves of the same, or a different class, and render the aspect more complex.

SYMPTOMS.

The attack may come on without any premonition, or may be preceded by dyspeptic, uterine, or arthritic disturbance. Decidedly paroxysmal in the commencement, the paroxysms observe the laws of periodicity, in imitation of an intermittent. When chronic, however, it is less paroxysmal.

Immediately precursory, are often to be noticed a sense of chilliness, slight disorder of stomach, pallor, and sometimes a sense of formication, or the *aura epileptica*.

The paroxysm is made up of transient paroxysms, between which there are commonly remissions of comparative ease. The pain shoots along the nerve, following its distribution; and is sometimes terribly severe. The part is so tender that the slightest touch cannot be tolerated,—even less tolerated than firm pressure. Redness of the part sometimes occurs. Twitch-

ing of the adjacent or remoter muscles, is occasionally observable. The circulation is little changed.

The duration of an attack varies from one or two hours to several days. The attack may not return for a week, month, or year.

Neuralgia most frequently assails the three divisions of the fifth, and the facial portion of the seventh pair of nerves. It often attacks the intercostal muscles, those of the shoulder, loins, hip, the large articulations, the scalp, mammæ, and testicles. The brain, too, as well as other viscera, is subject to it. It may be confined to a spot no larger than a pea.

C A U S E S.

PREDISPOSING.—Most incident to the period of life between forty and sixty; to the female, with a delicate, irritable, or shattered constitution. But exceptions to the last statement are numerous. It is apt to attack, in a mitigated form, girls at the age of puberty, or a little later.

Mechanical injuries of nerves from wounds, or from the pressure of spiculæ of bones or tight lacing; the chemical action of the fluids in caries; dental irritation in facial neuralgia; miasmata; excessive venery, or masturbation; dyspepsia, or lesions of any of the viscera (though it is probable that many cases attributed to these causes are really founded in atonic, or misplaced gout); anæmia.

EXCITING.—Exposure to cold, moisture, or a draft of cold air, undue corporeal or mental exercise, the emotions, or slight mechanical disturbance.

D I A G N O S I S.

Distinguished by the acute pain darting along the nerves, its occurrence in paroxysms, and the absence of inflammatory signs.

It bears the closest analogy to *neuritis*, or inflammation of a nerve, and particularly in the case of the tooth. But this may

be distinguished from genuine odontalgia, by its being deep-seated, more obtuse, permanent, ultimately followed by swelling of the cheek and gums, and by its ending in suppuration, &c.

It is distinguished from *rheumatism* by the difference of the predisposing and exciting causes, the difference of the seat of the pain, the absence of fever and inflammatory signs, its not impairing the constitution or structures, even when protracted, and the different effect of remedies.

It is very important, though sometimes difficult, to elucidate the source of the disease. Emanating from the head, the case is preceded by giddiness or other uneasiness of the head, disorder of some of the senses, congestion or increased action in the vessels of the brain, with a sympathetic affection of the liver or stomach.

The symptoms of the superior cervical division of the spinal marrow, are pain in the scalp, shooting in various directions up the occipital even to the frontal portion, or laterally along the temples over the face, or sweeping behind the ears, or around the lower jaw, productive of rigidity of the muscles, impeding its movements and those of the head.

In an implication of the inferior cervical portion, the pain is seated in the superior part of the chest, about the clavicle or scapula, or it runs down the arm, sometimes even to the fingers; or passing forward, the superficial integuments, or the mammæ in females, may be involved in exquisite soreness, or intense darting pains.

The upper part of the dorsal division being affected with many of the symptoms just mentioned, it is more strikingly characterized by pain in the intercostal muscles, or margin of the ribs, or sternum, or epigastric region, or integuments behind the chest, the acuteness of pain being occasionally exchanged for dyspnœa in various degrees.

The lower dorsal division being affected with some of the preceding phenomena, we have a sense of constriction across the waist, and great tenderness and darting pain in the parietes of the abdomen.

In disease of the lumbar and sacral section, there is a dull ache, or acute pain in the muscles of the loins, and those of the

hips, with a pain shooting down the lower extremities, and the tottering gait of an inebriate.

The ganglia, or branches of the sympathetic, being involved, we have depravations of function or true neuralgic pains of the organs deriving their nerves from this source. Thus result palpitations, spasmodic asthma, angina pectoris, cramps, colic, gastralgia, &c. Connected with these disturbances, we may find great vitiation of the secretions, as in pyrosis, the diabetic discharge, &c.

But generally in protracted cases one set of nerves implicates another. This is particularly the case of the spinal and ganglionic nerves. The former, indeed, have seldom a distinct affection. In colic, is exemplified the implication of the nerves of the back, the pain in which is as great as that in the bowels.

The most certain test of spinal disease is, undue sensibility betrayed by pressure, or percussion, of the vertebræ, or sponging with hot water.

PROGNOSIS.

Rather difficult of cure, especially in old cases. Those are most favourable, which are seated in the spinal marrow; and those seated in the ganglionic nerves the least so, especially when connected with depravation of the abdominal viscera.

The disease, however, cannot be regarded as fatal, and it often disappears spontaneously, or under the influence of some new disease, especially an eruptive one, or a revolution in the mode of living, or merely the shock of a mental emotion.

AUTOPSIIC APPEARANCES.

In most instances no appreciable lesions have existed. In many, the lesions were probably the cause instead of effect of the disease. In a few cases the vessels of the neurilemma were found preternaturally turgescient; and the nerve had an unnatural floridness, was thickened, but wanted the effusion of serum, lymph, or pus, with the general changes of structure incident to neuritis.

PATHOLOGY.

The disease, though having generally a local, may have also a constitutional origin.

It seems certain, though inflammation of a nerve or nerve-centre may supervene upon neuralgia, that yet it is not an essential ingredient of it. Still, the disease may commence in a neuritis, or myelitis, or phrenitis, which may be exchanged for neuralgia, so as to justify a depletory plan of practice in the beginning, and a tonic one afterwards. Or, there may be inflammation at the root of a nerve, and in the branches a mere neuralgia, which may enjoy an indefinitely protracted and independent existence, after the reduction of the neuritis.

The nature of the pain, and the effect of medicines, are much diversified by the location of the affection. It seems to be seated, however, only in the nerves of sensation, and is associated with a state of exceedingly exalted sensibility,—a state the opposite of that of palsy.

TREATMENT.

I. OF THE PAROXYSM.

Venesection.—When there is plethora, or a local phlogistic condition, which, revived by cold or other means, reproduces the neuralgia. This inflammation may be situated in the neurilemma, and may be of a rheumatic character.

Leeching.—Very serviceable in myelitis, neuritis, or phlogosis of the neurilemma, which, as appeared in the Pathology, may complicate, or originate neuralgia. It should of course be applied to the seat of the lesion.

Caustics.—Preferable to epispastics; and particularly valuable when put behind the ear, in facial neuralgia.

Steaming.—May assuage when there is exquisite tenderness.

Acupuncture.—When large muscles are involved, as those of the loins or hips, occurring mostly in gouty or rheumatic subjects.

Opium.—Nearly useless in facial neuralgia, it is of the

greatest service in that of the ganglionic system, and above all in the attacks of the alimentary canal. It has also considerable power over irritations of the spinal nerves.

The external application of morphia has been successful.

Colchicum.—Sometimes very serviceable.

Nauseants, or vomiting. These have an extraordinary power to subdue pain, and are one of the best expedients in the present instance. Nausea may be protracted several hours.

2. TREATMENT OF THE INTERMISSION, FOR A RADICAL CURE.

We should first endeavour to ascertain the fountain of irritation. Arising from a tooth, or a spicula of bone, or tumour, we must resort to a surgical operation. Those cases dependent on a slight wound, which, after healing, irritates the nerve, are most effectually relieved by the application of a caustic to convert it into a running sore.

It would be needless to repeat the treatment adapted to the various sources in which the neuralgia may arise.

An example or two will suffice. Judging the disease to spring from a phlogistic or congestive irritation of a certain part of the spine, we cup and use counter-irritation over the region, and enjoin a state of rest. Supposing it to lie in a similar condition of the sympathetic nerve, the same remedies are suited, and may be preferably applied to the back, instead of the front of the body, or directly over the organ assailed. Again, concluding that neuralgia is originated or maintained by disorder of the digestive apparatus, we must first rectify this.

The primary causes of the disease having thus been overcome, a resort may now be made to tonics, &c., with a view of its eradication.

Of the tonics, perhaps, the best is the *Subcarbonate of Iron*. It seems to have the property of lessening sensibility in most nervous diseases. It may be given in the dose of a drachm or more, several times a day.

The nitrate of silver, and, especially in the ganglionic affection, the subnitrate of bismuth, deserve our regard.

From the *narcotics*, Dr. Chapman has derived little advantage. Combined, however, with quinine, their virtues seem improved.

Quinine and arsenic are adapted to all cases of a decidedly intermittent type.

Emetics.—Very useful, and especially in neuralgia of the pericranium.

Colchicum.—In gouty or rheumatic habits.

Electricity, Galvanism, and Magnetism, sometimes succeed.

When our diagnosis is not clear, we may be compelled to follow an empirical and tentative practice.

REGIMEN.

Should be adapted to our views of the pathology of the case. It may here be stated that the excision of a portion of nerve has sometimes proved successful, and may be resorted to, as a last expedient.

DISEASES OF THE GENERATIVE AND URINARY SYSTEM.

DIABETES.

DEFINITION.—A permanent increase, with an alteration of the quality, of the urinary discharge.

It is usually divided into two species, according to the character of the fluid.

DIABETES INSIPIDUS.

DIABETES MELLITUS.

Some pathologists deny the distinction, while others maintain that the mellitic is the only form of genuine diabetes. Dr. Chapman, without deciding the point, directs his attention chiefly in conformity with the latter view.

Mere hyperuresis may occur under a variety of circumstances.

The first observation of diabetes mellitus was published in 1684, by Willis.

SYMPTOMS.

Preceded for the most part by general derangement of health, especially derangement of the digestive and subsidiary processes. This state also accompanies the actual existence of the disease. We have also urgent thirst, parched mouth, costiveness, pain and heaviness in the lumbar region, general weariness and aversion to exercise, and various dyspeptic symptoms.

Continuing, with an aggravation of the preceding symptoms, we observe a loss of strength, emaciation, dyspnœa, vertigo,

headache, the gums ulcerated at the roots of the teeth, extreme restlessness, cramps and spasms of the extremities, weak mind, petulant temper, anaphrodisia, or impotency, and redness, swelling and excoriation about the mouth of the urethra, with phymosis.

Not terminating suddenly, which, however, it sometimes does, the disease proceeds till the system is finally exhausted by hectic fever, with pulmonic affections, or an inveterate dropsy.

The pulse throughout, though irritated, is generally weak.

The *renal secretion*, though usually excessive, varies from an indefinitely small increase, to thirty pints in twenty-four hours, which may be kept up for weeks and months. It is of a pale straw-colour, with a peculiar odour, resembling sweet whey, or milk, and somewhat of a saccharine, or honied taste. Mixed with it, we may observe albuminous matter like chyle, and occasionally clots of blood. The saline substances, though bearing to each other about the same relative proportion, are much diminished. The urea is much reduced, but not entirely wanting. On evaporation of a pint of fluid, an extract remains of an ounce and a half.

The secretion in diabetes insipidus, is insipid, pellucid, and very little changed.

C A U S E S.

REMOTE.—A decayed and shattered constitution. It is most incident to the debauched, in the decline of life, and especially to such as have been addicted to ardent spirits. Whatever disorders the stomach, or its dependencies, seems to predispose to the production of the disease; also excessive venery, and whatever debilitates the system.

P R O G N O S I S.

It must be regarded as a most formidable disease, especially in decayed constitutions.

AUTOPSIIC APPEARANCES.

The kidneys and liver are found most affected. The former is in some cases flabby, enlarged, and of an ash-colour, in other cases vascular and phlogosed. We may also observe morbid phenomena in the other abdominal viscera, and the lungs. Sometimes the whole force of the disease seems spent on the chylopoietic viscera, while at others it is spent on the urinary apparatus.

The blood is deficient in animalization; and when chemically examined, has not its ordinary proportion of fibrin and albumen.

PATHOLOGY.

There has been much discussion, whether the primary seat is in the kidneys, or digestive and assimilative organs. Dr. Chapman has no doubt of its origination in the latter. He believes that, as in lithiasis, the secretion of the kidneys is modified by the state of the digestive apparatus. In the present instance they are caused to secrete sugar, and an immense amount of fluid. But the anormal condition of the blood, which results from the disordered state of the assimilative organs, assists in exciting the kidneys to the diabetic secretion. This excess of fluid eliminated by the kidneys, is counterbalanced partly by the deficiency of perspiration, though it is also supplied by the large quantities of liquid taken into the stomach, and by a conversion of the solids.

The hepatic, pulmonary, and other affections are derived from an extension or sympathetic reflection of the gastric irritation.

The symptoms of diabetes are totally different from primary disease of the kidneys.

TREATMENT.

The great indication is to rectify the depraved state of the digestive organs; and, here, much of the treatment applicable to dyspepsia will be found suitable. Afterwards the

Astringents may be serviceable. With them may be combined

Opium, which is also highly useful in allaying the nervous irritation. It may be given in large doses. The

Warm Bath at bed-time, followed by stimulating frictions, is of vast importance. Its use is to relax the skin. With the same view may be administered the diaphoretics. The Dover's powder is, perhaps, the most eligible of the class.

Venesection is confessedly of great importance; and it may be resorted to, even when the low state of the system would seem to forbid. The quality of the blood greatly improves under its use.

There being pain in the lumbar region, with a sense of heaviness,

Topical Bleeding is demanded; which may be succeeded by a blister.

The diet should be exclusively animal. The only fluid admissible is milk. This, indeed, may be used to the exclusion of meat, in the stage of excitement. But the dietetic rules of dyspepsia will furnish many valuable hints. For drink may be directed lime water, or water acidulated with a mineral acid, or even plain water, according to circumstances.

The kidneys, or other organs being painfully, or otherwise seriously affected, rest will be advisable; otherwise it will be well for the patient to take exercise, particularly in the fresh air. The regimen should be accurately observed, since by an infraction, relapses are extremely apt to recur.

THE END.

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A HIGHLY-FINISHED VIEW OF THE BONES OF THE HEAD, . . . . facing the title-page.  
 VIEW OF CUVIER'S ANATOMICAL THEATRE, . . . . . vignette.

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 431 First appearance of the blood-vessels.  
 432 Capillary vessels magnified.  
 433 Another view of the same.  
 434 Blood globules.  
 435 Another view of the same.  
 436 The mediastina.  
 437 Parenchyma of the lung.  
 438 The heart and pericardium.  
 439 Anterior view of the heart.  
 440 Posterior view of the heart.  
 441 Anterior view of its muscular structure.  
 442 Posterior view of the same.  
 443 Interior of the right ventricle.  
 444 Interior of the left ventricle.  
 445 Mitral valve, the size of life.  
 446 The auriculo-ventricular valves.  
 447 Section of the ventricles.  
 448 The arteries from the arch of the aorta.  
 449 The arteries of the neck, the size of life.  
 450 The external carotid artery.  
 451 A front view of arteries of head and neck.  
 452 The internal maxillary artery.  
 453 Vertebral and carotid arteries with the aorta.  
 454 Axillary and brachial arteries.  
 455 The brachial artery.  
 456 Its division at the elbow.  
 457 One of the anomalies of the brachial artery.  
 458 Radial and ulnar arteries.  
 459 Another view of the same.  
 460 The arcus sublimis and profundus.  
 461 The aorta in its entire length.  
 462 Arteries of the stomach and liver.  
 463 Superior mesenteric artery.  
 464 Inferior mesenteric artery.  
 465 Abdominal aorta.  
 466 Primitive iliac and femoral arteries.  
 467 Perineal arteries of the male.  
 468 Position of the arteries in the inguinal canal.  
 469 Internal iliac artery. 470 Femoral artery.  
 471 Gluteal and ischiatic arteries.  
 472 Branches of the ischiatic artery.  
 473 Popliteal artery.  
 474 Anterior tibial artery.  
 475 Posterior tibial artery.  
 476 Superficial arteries on the top of the foot.  
 477 Deep-seated arteries on the top of the foot.  
 478 Posterior tibial artery at the ankle.  
 479 The plantar arteries.  
 480 Arteries and veins of the face and neck.  
 481 Great vessels from the heart.  
 482 External jugular vein.  
 483 Lateral view of the vertebral sinuses.  
 484 Posterior view of the vertebral sinuses.  
 485 Anterior view of the vertebral sinuses.  
 486 Superficial veins of the arm.  
 487 The same at the elbow.



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| <p>Fig.<br/>488 The veins of the hand.<br/>489 The great veins of the trunk.<br/>490 Positions of the arteries and veins of the trunk.<br/>491 The venæ cavæ. 492 The vena portarum.<br/>493 Deep veins of the back of the leg.<br/>494 Positions of the veins to the arteries in the arm. 495 Superficial veins of the thigh.<br/>496 Saphena vein.<br/>497 Superficial veins of the leg.<br/>498 Lymphatics of the upper extremity.</p> | <p>Fig.<br/>499 The lymphatics and glands of the axilla.<br/>500 The femoral and aortic lymphatics.<br/>501 The lymphatics of the small intestines.<br/>502 The thoracic duct.<br/>503 The lymphatics of the groin.<br/>504 Superficial lymphatics of the thigh.<br/>505 Lymphatics of the jejunum.<br/>506 Deep lymphatics of the thigh.<br/>507 Superficial lymphatics of the leg.<br/>508 Deep lymphatics of the leg.</p> |
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PART V.—THE NERVOUS SYSTEM AND SENSES.

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| <p>509 Dura mater cerebri and spinalis.<br/>510 Anterior view of brain and spinal marrow.<br/>511 Anterior view of the spinal marrow, &amp;c.<br/>512 Lateral view of the spinal marrow, &amp;c. †<br/>513 Posterior view of the spinal marrow, &amp;c.<br/>514 Decussation of Mitischelli.<br/>515 Origins of the spinal nerves.<br/>516 Anterior view of spinal marrow and nerves.<br/>517 Posterior view of spinal marrow and nerves.<br/>518 Anterior spinal commissure.<br/>519 Posterior spinal commissure.<br/>520 Transverse section of the spinal marrow.<br/>521 Dura mater and sinuses.<br/>522 Sinuses laid open.<br/>523 Sinuses at the base of the cranium.<br/>524 Pons Varolii, cerebellum, &amp;c.<br/>525 Superior face of the cerebellum.<br/>526 Inferior face of the cerebellum.<br/>527 Another view of the cerebellum.<br/>528 View of the arbor vitæ, &amp;c.<br/>529 Posterior view of the medulla oblongata.<br/>530 A vertical section of the cerebellum.<br/>531 Another section of the cerebellum.<br/>532 Convolutions of the cerebrum.<br/>533 The cerebrum entire.<br/>534 A section of its base.<br/>535 The corpus callosum entire.<br/>536 Diverging fibres of the cerebrum, &amp;c.<br/>537 Vertical section of the head.<br/>538 Section of the corpus callosum.<br/>539 Longitudinal section of the brain.<br/>540 View of a dissection by Gall.<br/>541 The commissures of the brain.<br/>542 Lateral ventricles.<br/>543 Corpora striata-fornix, &amp;c.<br/>544 Fifth ventricle and lyra.<br/>545 Another view of the lateral ventricles.<br/>546 Another view of the ventricles.<br/>547 Origins of the 4th and 5th pairs of nerves.<br/>548 The circle of Willis.<br/>549 A side view of the nose.<br/>550 The nasal cartilages.<br/>551 Bones and cartilages of the nose.<br/>552 Oval cartilages, &amp;c.<br/>553 Schneiderian membrane.<br/>554 External parietes of the left nostril.<br/>555 Arteries of the nose.<br/>556 Pituitary membrane injected.<br/>557 Posterior nares. 558 Front view of the eye.<br/>559 Side view of the eye.<br/>560 Posterior view of the eyelids, &amp;c.<br/>561 Glandulæ palpebrarum.<br/>562 Lachrymal canals.<br/>563 Muscles of the eyeball.<br/>564 Side view of the eyeball.<br/>565 Longitudinal section of the eyeball.<br/>566 Horizontal section of the eyeball.<br/>567 Anterior view of a transverse section.<br/>568 Posterior view of a transverse section.<br/>569 Choroid coat injected.<br/>570 Veins of the choroid coat.<br/>571 The iris. 572 The retina and lens.</p> | <p>573 External view of the same.<br/>574 Vessels in the conjunctiva.<br/>575 Retina, injected and magnified.<br/>576 Iris, highly magnified.<br/>577 Vitreous humour and lens.<br/>578 Crystalline adult lens.<br/>579 Lens of the fœtus, magnified.<br/>580 Side view of the lens.<br/>581 Membrana pupillaris.<br/>582 Another view of the same.<br/>583 Posterior view of the same.<br/>584 A view of the left ear.<br/>585 Its sebaceous follicles.<br/>586 Cartilages of the ear.<br/>587 The same with its muscles.<br/>588 The cranial side of the ear.<br/>589 Meatus auditorius externus, &amp;c.<br/>590 Labyrinth and bones of the ear.<br/>591 Full view of the malleus. 592 The incus.<br/>593 Another view of the malleus.<br/>594 A front view of the stapes.<br/>595 Magnified view of the stapes.<br/>596 Magnified view of the incus.<br/>597 Cellular structure of the malleus.<br/>598 Magnified view of the labyrinth.<br/>599 Natural size of the labyrinth.<br/>600 Labyrinth laid open and magnified.<br/>601 Labyrinth, natural size.<br/>602 Labyrinth of a fœtus.<br/>603 Another view of the same.<br/>604 Nerves of the labyrinth.<br/>605 A view of the vestibule, &amp;c.<br/>606 Its soft parts, &amp;c.<br/>607 An ampulla and nerve.<br/>608 Plan of the cochlea.<br/>609 Lamina spiralis, &amp;c.<br/>610 The auditory nerve.<br/>611 Nerve on the lamina spiralis.<br/>612 Arrangement of the cochlea.<br/>613 Veins of the cochlea, highly magnified.<br/>614 Opening of the Eustachian tube in the throat.<br/>615 Portiø mollis of the seventh pair of nerves.<br/>616 The olfactory nerves.<br/>617 The optic and seven other pairs of nerves.<br/>618 Third, fourth and sixth pairs of nerves.<br/>619 Distribution of the fifth pair.<br/>620 The facial nerve.<br/>621 The hypo-glossal nerves.<br/>622 A plan of the eighth pair of nerves.<br/>623 The distribution of the eighth pair.<br/>624 The great sympathetic nerve.<br/>625 The brachial plexus.<br/>626 Nerves of the front of the arm.<br/>627 Nerves of the back of the arm.<br/>628 Lumbar and ischiatic nerves.<br/>629 Posterior branches to the hip, &amp;c.<br/>630 Anterior crural nerve.<br/>631 Anterior tibial nerve.<br/>632 Branches of the popliteal nerve.<br/>633 Posterior tibial nerve on the leg.<br/>634 Posterior tibial nerve on the foot.</p> |
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\* *Northern Journal of Medicine for July 1845.*

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

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
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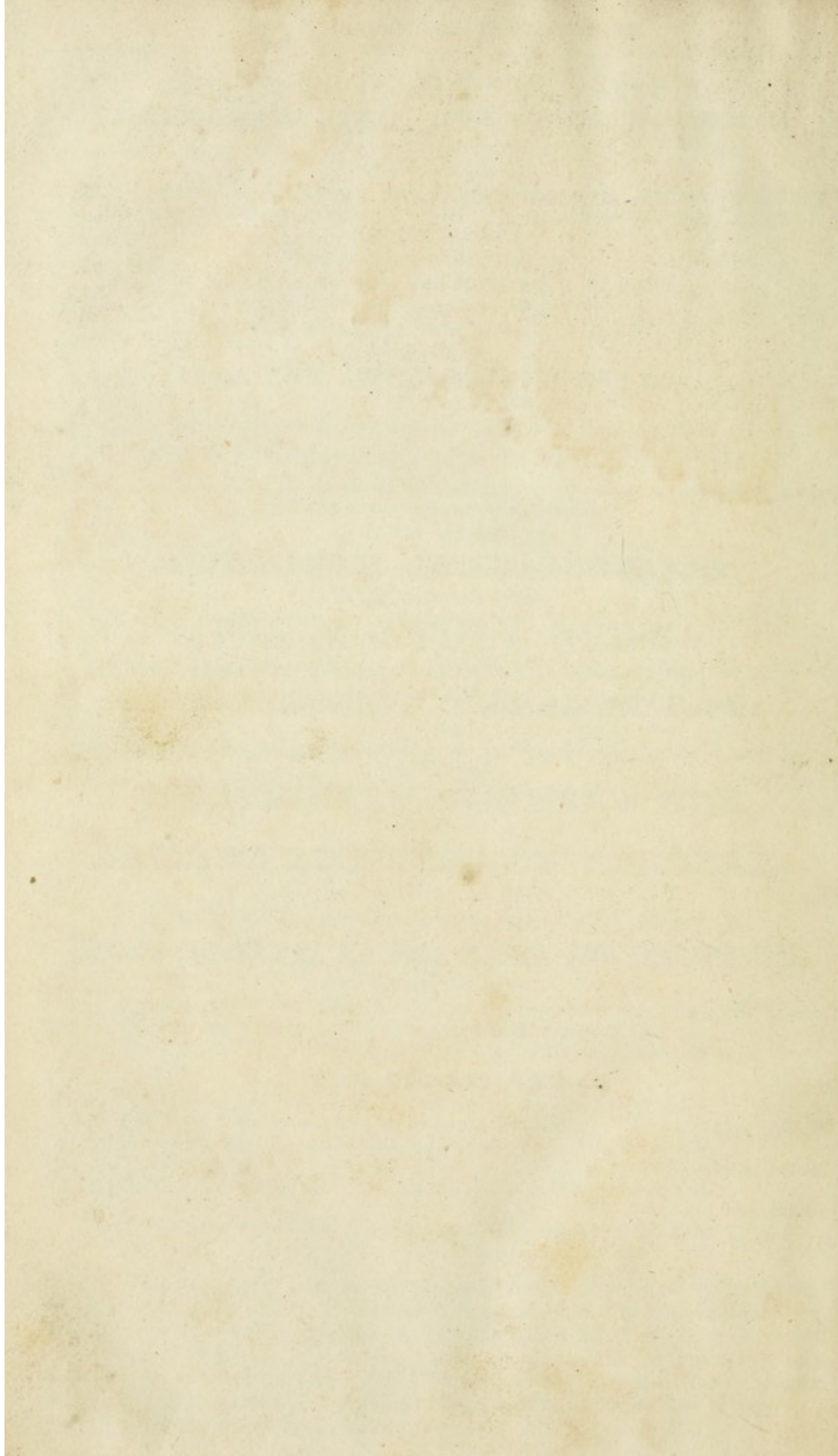
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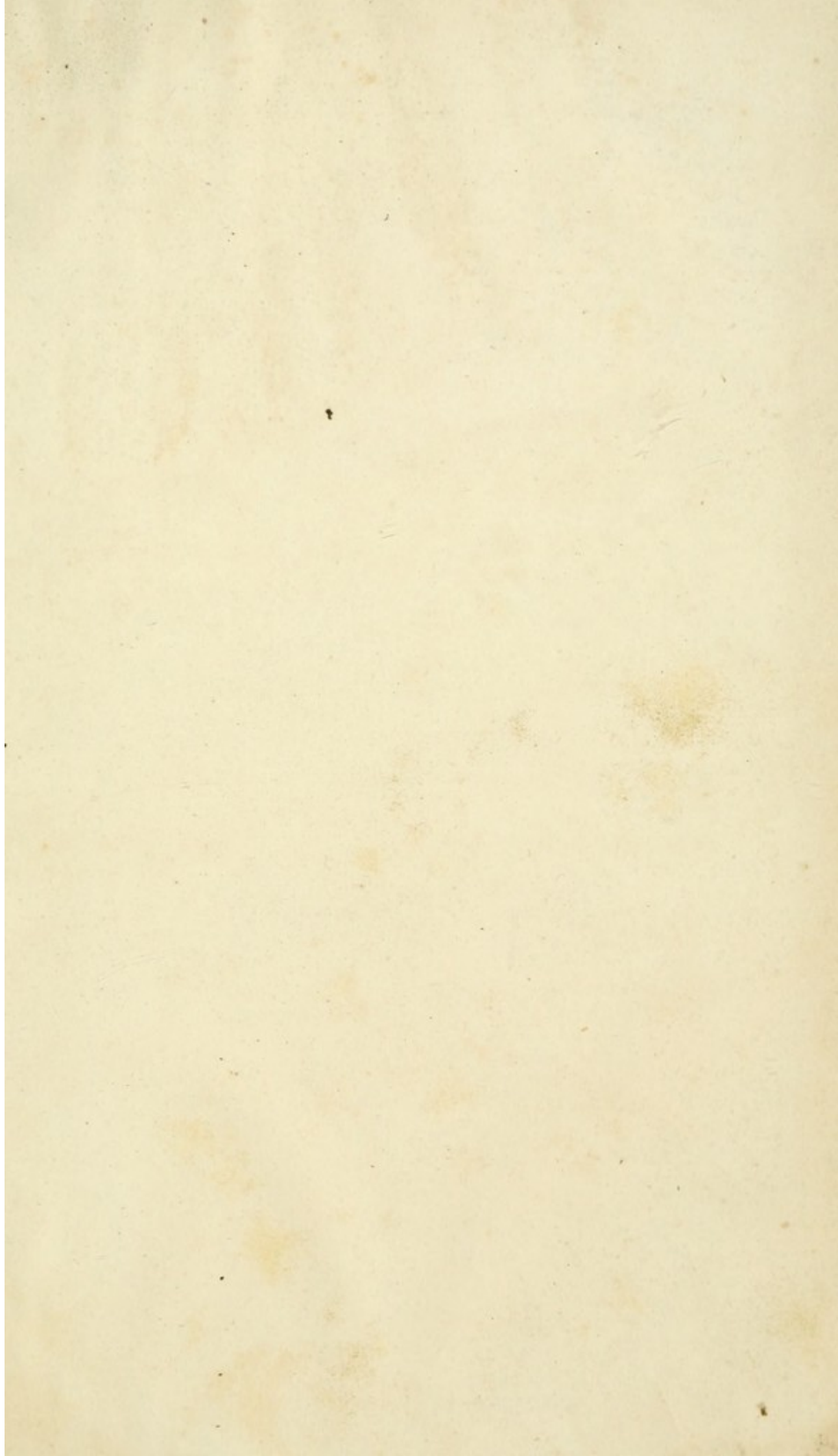
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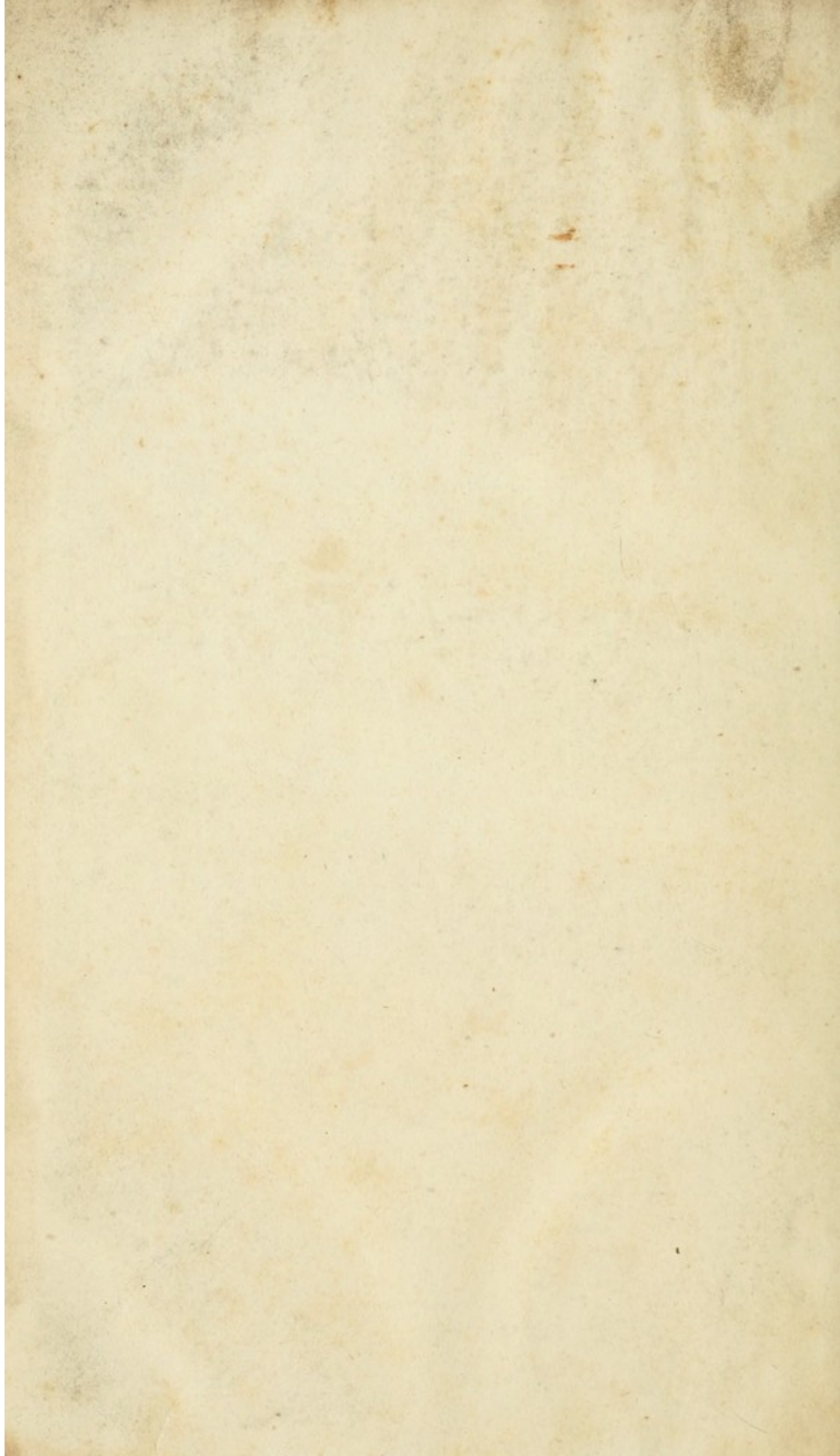
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