

A treatise on inflammation and other diseases of the liver, commonly called bilious : including the synochus biliosa, cholera morbus, torpor, schirrous, biliary calculi : which is preceded by a short description of the structure of the liver, and the different phisiological opinions respecting the use of the bile : lastly, is added a monthly list of diseases, from the 1st of June, 1806, to the 30th of June, 1807, with the state of the weather, and thermometer / by W. White.

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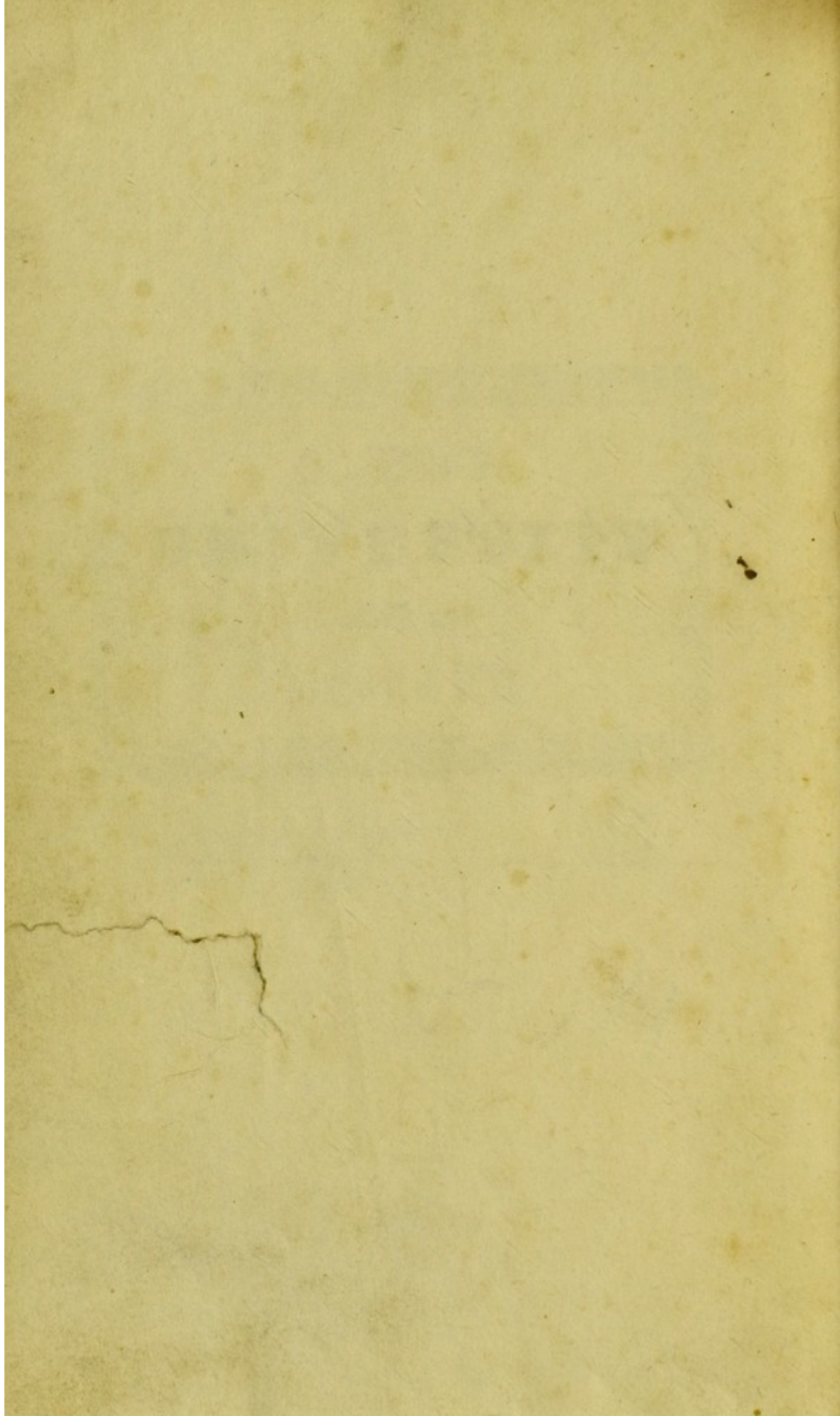
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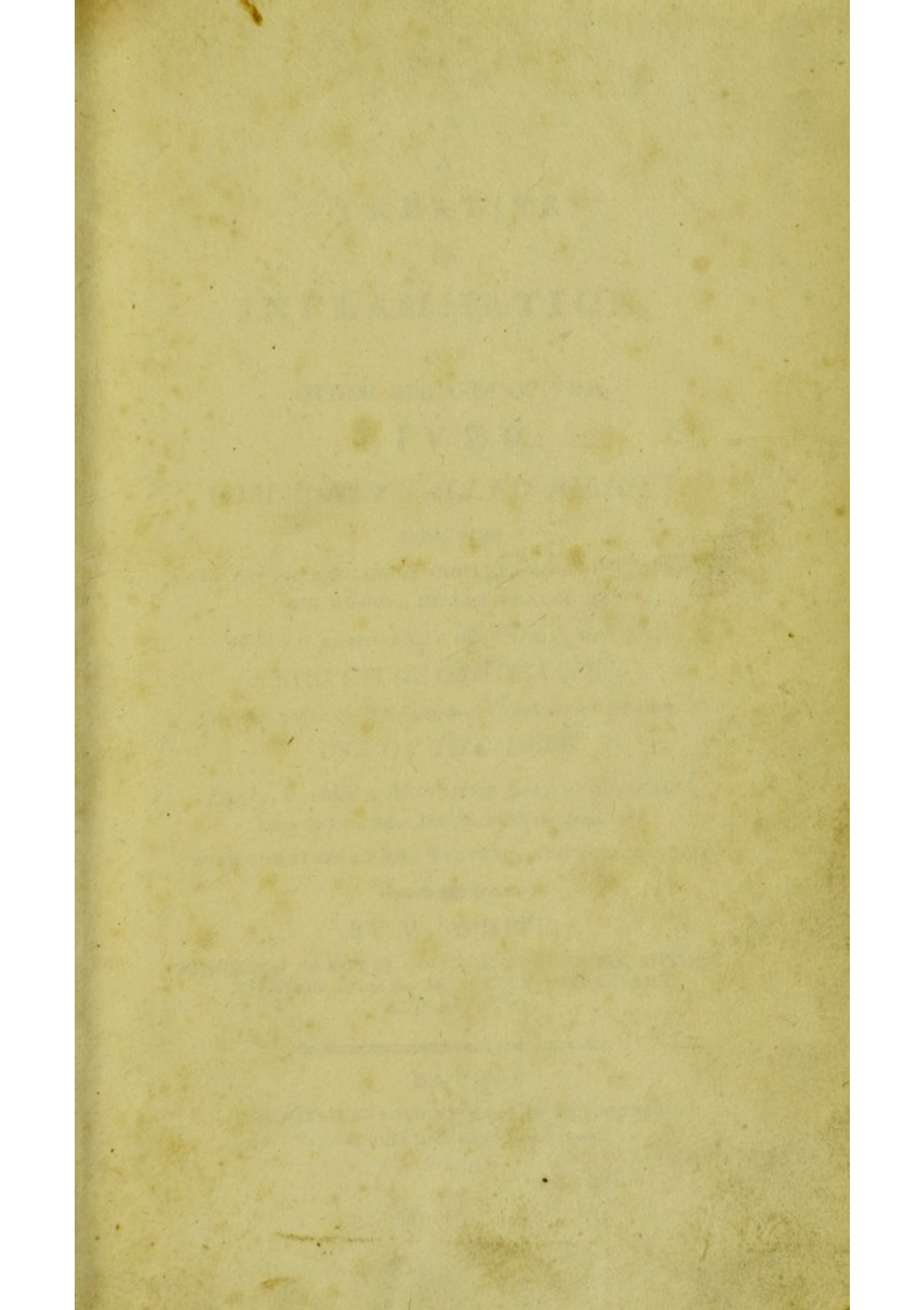
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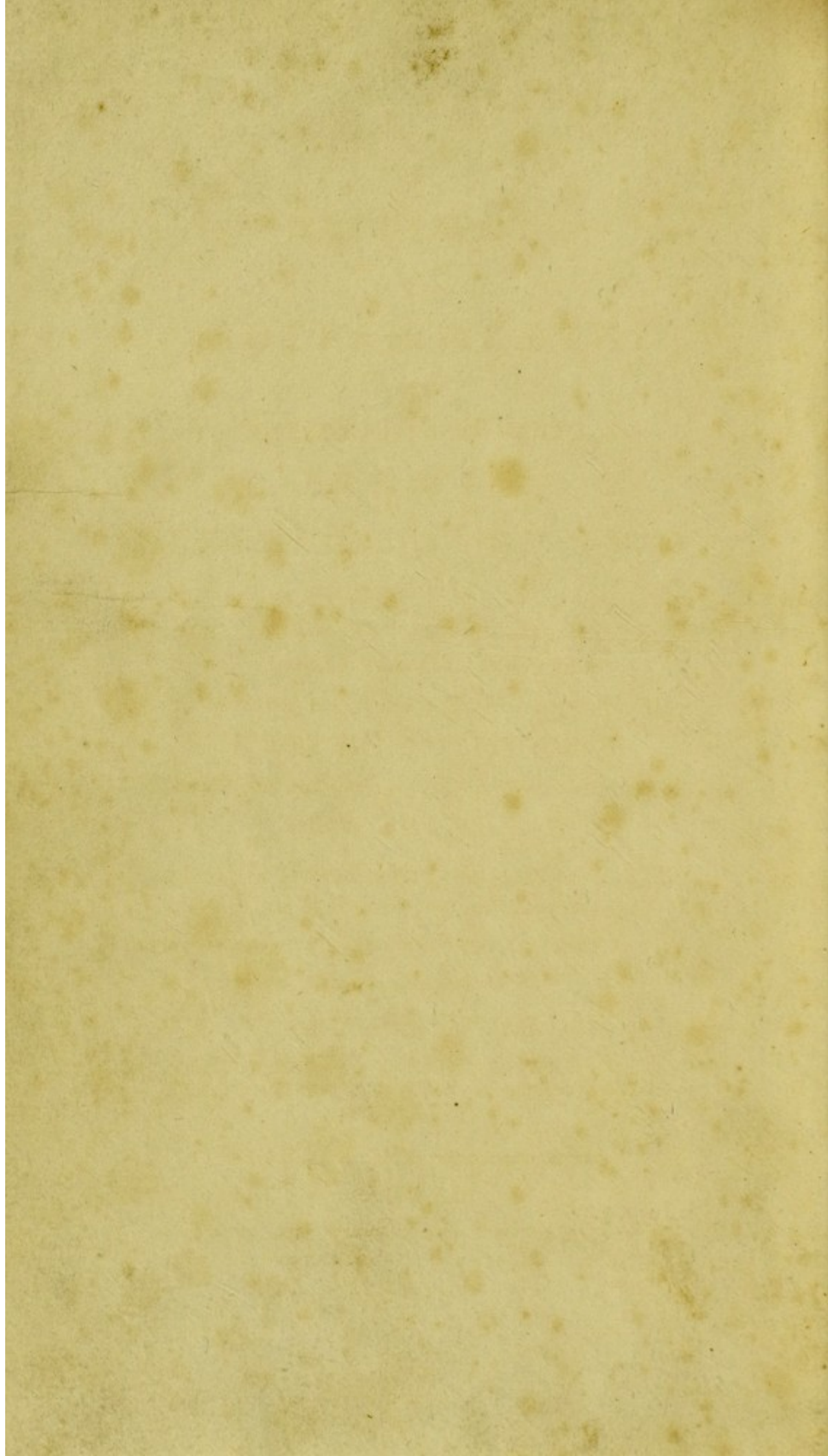
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A
TREATISE
ON
INFLAMMATION,
AND
OTHER DISEASES OF THE
LIVER;
COMMONLY CALLED BILIOUS:

INCLUDING

THE SYNOCHUS BILIOSA; CHOLERA MORBUS; TORPOR;
SCHIRROUS; BILIARY CALCULI;

Which is preceded by a short Description of the

STRUCTURE OF THE LIVER,

And the different Phisiological Opinions respecting the
USE OF THE BILE.

Lastly, is added a MONTHLY LIST of DISEASES,

From the 1st of June, 1806, to the 30th of June, 1807,

WITH THE STATE OF THE WEATHER, AND THERMOMETER.



BY W. WHITE,

MEMBER of the ROYAL COLLEGE of SURGEONS, LONDON;
SURGEON, &c. to the BATH CITY DISPENSARY,
AND ASYLUM.

BATH:

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AND CADELL AND DAVIES, LONDON.

1808.

LOWELL'S OFFICE

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TO THE
COMMITTEE OF MANAGERS
OF THE
BATH CITY DISPENSARY AND ASYLUM.

GENTLEMEN,

The execution of that office, which by your favor I have been entrusted with upwards of fifteen years, has afforded me frequent opportunities of making useful, and practical observations; which I have not failed at different times, to communicate to the public.

Your unremitted attention to the interests of so useful an Institution, claims the highest respect: for whilst you are careful to observe the strictest economy; at the same time you are equally disposed to extend its beneficial effects, as circumstances may require, and as its finances enable you.

To you, therefore, Gentlemen, who are the Managers of that particular Institution to which I have the honor to belong, this Treatise is addressed, in testimony of that respect,

*With which I am,
Gentlemen,*

Your most obedient

humble Servant,

W. WHITE.

COMMITTEE OF MANAGERS

OF THE

BATH CITY DISPENSARY AND ASYLUM

SECRETARY

THE FOLLOWING REPORT, which

by your favor I have been entrusted with the duty of

presenting to you, has afforded me frequent opportunities of

consulting with you, and I have been enabled to

obtain a full and complete view of the state of the

Asylum, and to be enabled to report to you the

result of my observations, and to recommend such

measures as may be deemed proper for the

improvement of the same, and to recommend such

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P R E F A C E.

THE subject on which I mean to treat in the following pages, has, at different periods, engaged the attention of some of the most able practitioners; particularly Dr. Saunders, whose Treatise on Diseases of the Liver, has been generally well received, and also highly recommended by other writers: on which account, any further attempt, perhaps, to elucidate the subject, may be deemed altogether unnecessary, or superfluous.

However extensive the practice of an individual may be, yet such is frequently the equivocal appearance of the same disease, under different circumstances of age, temperament, &c. that the opportunities afforded to a single individual, even when connected with the strictest observation, will not enable him to detect all the varieties. This remark, I think, will be fully justified in the course of the following work.

In no specific Treatise on Diseases of the Liver, that I have met with, is the synochus biliosa, particularly noticed. This circumstance alone, is, in my opinion, a sufficient apology for the present undertaking; for certainly this disorder forms an important link, in the chain of hepatic diseases.

Although the term bilious is a familiar and common one, and there is no doubt but many diseases are called so, that have no connection whatever with the liver; yet it must

be allowed, that the liver is an organ of great importance in the human body, and is not only liable to derangements, which are indicated by the presence of appropriate symptoms; but very often distant organs are affected, when the source of the complaint is in the liver itself, which shews its general influence. The truth of this remark is confirmed by the experience and testimony of Dr. Hamilton of Edinburgh, and Mr. Abernethy, with various other writers.

I have availed myself of every valuable hint from the most eminent writers, which I have not failed to acknowledge. At the same time, in instances where my experience has not corresponded with theirs, I have taken the liberty of stating the reasons that have obliged me to differ in opinion; and have opposed obvious facts to mere speculative assertions.

I flatter myself that the method of arrangement will appear simple to the young practi-

tioner, and afford him some assistance in discriminating the different morbid affections of the liver.

If therefore any addition, however small, is made to the facts already accumulated, it will be increasing the stock of medical science.

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A TREATISE
ON
INFLAMMATION,
AND OTHER
DISEASES OF THE LIVER.



BEFORE I proceed to the arrangement of the different diseases of the Liver; description of the symptoms, and method of cure, peculiar to each morbid affection; I shall take some notice of its singular structure, and the different phisiological opinions respecting its use in the animal economy; and the purpose for which it secretes the bile.

The peculiarity of the organization of the liver, consists chiefly, in its differing from every other

organ of the body, in having the office of secretion performed by a vein, instead of an artery; which performs both the office of secretion, and nutrition, in every other viscus, except the liver. In further describing this singular deviation, I shall avail myself of the very clear, and concise description as given by Dr. Saunders in his treatise on the structure, and diseases &c. of that organ.

“ The hepatic artery, at its origin, is a vessel of considerable size, but before it arrives at the liver is sensibly smaller; the cause of which is, that in its progress it supplies adjacent parts with blood, viz. the right portion of the stomach, by means of the gastrica dextra and pylorica, and the gall bladder by the arteria cystica; therefore, in forming a true estimate of the quantity of blood sent to the liver for its nourishment, we are to consider the area of the hepatic artery, after the three preceding branches are sent off.

“ This vessel, agreeable to the general law of distribution, divides into branches before it enters the substance of the liver; its ramifications then multiply and extend with great minuteness through

the whole mass; so that in every part of its substance there is circulating blood possessed of properties fit for nutrition. But as this blood is in a state of constant motion, and is continually displaced by successive fresh supplies, a redundancy is prevented here, as well as in the other parts of the body, by returning veins. The ultimate branches then of the hepatic artery terminate in the hepatic veins, and these return the blood into the vena cava inferior, by three or four venous trunks. Such is the circulation through the liver as connected with its nourishment. We are next to consider it as an organ of secretion.

“ This organ differs from every other gland of the body, with regard to the nature of the blood from which secretion is performed. While other fluids are secreted from florid arterial blood, which has lately received changes from the air by the intervention of the lungs, the bile is formed from blood of a dark colour, possessing the common characters of venous blood, and is conveyed to the liver by a vein. The vena portarum, which conveys this blood, takes its name from the part

of the liver at which it enters; there being two eminences, one on each side of the fissure, called the portæ, where this vessel begins to penetrate. To understand the origin of the vena portarum, and the properties of the blood which it conveys, it will be necessary to explain the circulation through the chylopoietic organs. The branches of the cœliac and mesenteric arteries as we have before observed, distribute their contents to the stomach, intestines, pancreas, and spleen, besides the hepatic artery, which supplies the liver. The blood circulating through all these viscera, except the last, being returned by their respective veins, is poured into their common trunk, the vena portarum; thus the origin of the vena portarum, appears to consist in the concurrence of all the veins of the peritonæal viscera, except the liver.

“ As the function of this vein differs from that of other organs, it has been supposed to possess some peculiarities of structure. — Some have thought it more muscular than other veins, and that its characters approach nearer to those of an artery. It certainly does not possess the grand

discriminating mark of an artery, or the power of preserving its orifice circular, when divided transversely. If it differs from veins in general, it is in having thicker tunics in proportion to the capacity of its canal; but with respect to the arrangement and disposition of its muscular fibres, this part of its structure does not appear sufficiently defined to authorise us to speak with precision.

“The vena portarum having reached the liver at that part called the great fissure, forms one large trunk called the sinus of the vena portarum, from which three principal branches usually take their origin; these, by forming subordinate ramifications in a regular series, at length arrive at their terminations.

“The extremities of these vessels end in two ways: one with respect to the circulation of the blood; the other, as connected with their economy, as secreting vessels. In the first point of view, they inosculate with branches of hepatic veins, and through that channel return to the inferior cava all that blood which is not employed

in the business of secretion. So that the hepatic veins are the common recipients of the contents of the hepatic artery, and likewise those of the vena portarum.

“The secreting termination of this vein is in the beginnings of the hepatic ducts, called *pori biliarii*; which in their origin must necessarily be very minute, in as much as they preclude admission of the red particles of the blood; from these minute beginnings they gradually enlarge by an union of branches, until at length they pass out from the liver at its fissure, by two or three trunks, which soon after join together, and form the trunk of the hepatic duct.

“The structure of this vessel is apparently membranous, having no fibres which can be considered as muscular, at least as far as we can decide by ocular demonstration. But as the eye, even aided by glasses, is not always competent to detect muscularity, we are compelled to have recourse to another and less fallacious test, which is—the power of contraction on the application of a stimulus. Mechanical and chymical stimuli have

been applied to this duct in a living animal, without producing any contraction which can be referred to muscularity. Some chymical stimuli it is true, will corrugate this canal; but they are such as produce effects only by corrosion, and which they do as readily on inanimate as on living matter."

Another proof of its want of muscularity, is its being often found very much dilated from the passing of a calculus.

"Besides the vessels already described, the liver is very plentifully supplied with absorbents, which take their origin from every part of its substance, but more especially from the branches of the hepatic duct." For a more minute description of them, as well as the nerves with which the liver is supplied, I shall refer the reader to Dr. Saunders's Treatise.

From this general view of the structure of the liver, it will appear obvious, that the principal design of that organ is for the purpose of biliary secretion.

There has been a difference of opinion, respecting the structure of the part where the office of secretion is performed; some suppose that there is a mere continuation of capillary vessels from the ultimate branches of the vena portarum, whilst others contend for the existence of follicles or cells. It is of very little consequence however, which of these opinions is right, in a practical point of view.

The bile when secreted, is conveyed by the ultimate branches of the hepatic duct, called *pori biliarii*, which become gradually larger, and at length terminate in a common trunk called the hepatic, through which the bile passes forward to the duodenum, or first intestine: but, before that duct penetrates the coats of the intestine, it is joined by another duct called the cystic, which is derived from the gall bladder, for the purpose of occasionally conveying the cystic bile also to the duodenum. These canals terminate in one common duct, called the *coledochus*, which perforates the coats of the intestine in an oblique direction, and opens into its internal surface, where it discharges the bile.

The hepatic bile is generally supposed to be constantly, though very slowly flowing into the intestine, except when its course is interrupted by an increased peristaltic, or inverted motion of the intestines, flatulency, or any other cause compressing the orifice of the duct; in which case the bile is thrown back by the cystic duct into the gall-bladder, which serves as an occasional receptacle for the bile, and is seated in a depression of the inferior concave surface of the liver. The cystic bile only passes to the duodenum, when the gall bladder is compressed by the neighbouring parts, as the diaphragm, the stomach when distended with food, the action of the abdominal muscles, or the intestines. Dr. Coe thought that its expulsion is partly occasioned by the contraction of the coats of the bladder, and of the duct, their fibres being stimulated by the weight of the bile, and by some degree of acrimony which it acquires by its stay in the bladder, as well as to the other causes above mentioned: but as the presence of muscular fibres has not as yet been ascertained, we cannot help rejecting this notion, and only

consider the gall bladder as a mere passive receptacle.

With respect to the quantity of bile which is secreted, and poured into the intestine, in the course of the twenty four hours, in a healthy state, it has been a subject of dispute amongst physiologists. The quantity as estimated by some, is so great that it would be absurd to mention it. Haller, and others, state the quantity to be about 24 ounces in 24 hours. Keil estimates the quantity at two drachms an hour, making in the whole six ounces in the twenty four hours, and which I think more probable to be the natural quantity than what has been stated by the other physiologists. The ordinary quantity of bile found in the gall-bladder is commonly about an ounce, though it has been found frequently to contain a very large quantity, so as to distend the bladder far beyond its natural size, when the bile has been for a considerable length of time obstructed in its passage to the duodenum.

When the bile is examined it appears an uniform saponaceous fluid. Its possessing a saponaceous

aceous property has been clearly ascertained, from being much used for the purpose of scouring, and taking out greasy spots, and also by the painters for dissolving gums, and resins.

The bile which passes directly from the liver to the intestine, is called hepatic bile, and that portion of it which enters the gall-bladder, is named cystic.

The hepatic bile is of a light yellow colour, much thinner, and less bitter to the taste than the cystic. Its alkaline quality is discoverable to the taste. The cystic bile in consequence of stagnating in the gall-bladder, acquires a thicker consistency, is of a dark green colour, and extremely bitter to the taste, and more powerful in its operation than the hepatic. From the analysis of Dr. Saunders, it appears that the following are the component parts of the bile.

“ First, water, impregnated with the odorous principle.

“ Secondly, a mucilaginous substance, resembling the albumen.

“ Thirdly, a resinous substance containing the colouring principle, and bitter taste.

“ With respect to their mode of combination, it seems that the saponaceous matter consists of the bitter resin in union with the alkali : this admits of a ready union with a mucilage, and with this again the aqueous matter very readily combines, so that the whole forms a mass apparently homogeneous.”

The bile was formerly supposed an excrementitious fluid, separated from the blood, in order to free it from noxious particles. Subsequent experience however has falsified the supposition, for we are taught thereby, its great importance in the animal economy ; therefore instead of viewing it as deleterious to the system, we consider it as designed to answer valuable purposes : as a healthy state of the body very much depends upon the quantity, and quality of that fluid. It has been observed by Lord Bacon “ that the bile is the incentive, and stimulus of many functions of the body.”

That the bile assists in the process of chylicification, and also that it acts as a natural stimulus to the intestinal canal, whereby the fæces are regularly

expelled, are points on which physiologists seem to agree. There are some however who suppose, that the bile not only assists in the process of chylification, but that the greatest part of the hepatic bile is mixed with the chyle, and again enters the circulation by the lacteals. This opinion has been lately advanced by Dr. Rush, in an enquiry on the functions of the liver, &c. published in the Medical and Physical Journal, for September, 1806.—He says, “the design of the liver, I believe to be, to receive the blood from every part of the body, in order to subject that part of it, which had not been completely animatized or divested of its chylous properties, to a secretory process, and afterwards to pour the product of this secretion, mixed with the liquor of the pancreas, into the duodemon to be absorbed, or otherwise taken up by the lacteals and conveyed with the chyle from the stomach into the blood vessels, in order to be completely converted into red blood, for the purpose of serving the various and important uses, for which that fluid is intended in the human body. While I suppose the bile (meaning the cys-

tic) to be of an excrementitious nature, I admit that it serves several valuable purposes in the animal economy. In stimulating the bowels, it enables them to propel their contents downwards, and imparts to them at the same time a tone which is communicated to the whole system. It serves likewise to precipitate those parts which are incapable of affording nourishment to the body from the chyle, and perhaps it retards its putrefaction in hot weather." This opinion however is not peculiar to Dr. Rush, as we meet with nearly the same sentiment in a Treatise published by Dr. Coe, in the year 1757, on Biliary Concretions. "The bile, (he says) is mixed with and makes part of the chyle, and perhaps a large share of its finer parts enters the lacteals, and returns directly to the blood: nay, perhaps almost all the hepatic bile may be thus disposed of, unless as some suppose, a part of it is taken up by the meseraic veins, and by them carried directly to the vena portarum. The finer parts of the bile being thus disposed of, even its grosser parts, though, perhaps, they may in some sort be called excrementitious, are not

without their further use. These gross parts of the bile remaining mixed with those parts of the other animal humours and of the food, which are not fit to pass the lacteals, that is making a part of the *fæces*, help to dissolve and prepare them for passing out of the body, and also to stimulate the fibres of the guts for their expulsion, and that the gross part is thus employed appears from its properties, from the colour of the *fæces alvinæ* in a natural state, from their white colour, and hardness, and the sluggishness of the bowels, when the bile is deficient, or become weak and inactive."

Dr. Saunders's opinion relative to the use of the bile is different to the foregoing. From the result of an experiment made with a view to ascertain whether the bile unites with the chyle or not, he was led to suppose that it does not mix with it, and consequently, that it is not taken up by the lacteals and carried again into the circulation. He says, "One important part of digestion is ultimately perfected in the upper end of the duodenum; and as digestion is always opposed to fermentable changes, the bile is well calculated to

finish that process. It seems probable from its resinous bitter, it may counteract any active, or spontaneous changes to which animal and vegetable matter would otherwise be subject; and that, the propensity to acidity in our vegetable aliment is extremely obvious, the alkaline matter of bile tends to correct it. Bile likewise from its saponaceous and soluble quality, lessens the adhesive nature of the fœces, and, by smoothing their surface, promotes their evacuation. We may probably err in confining the use of the bile, therefore to any single operation, while from its nature it seems so well qualified to answer a variety of useful purposes in the animal economy."

Mr. Saumarez in the Medical, and Physical Journal for October, 1806, has in a very able manner, controverted several of the singular notions of Dr. Rush; which appeared in the preceding number for September, respecting the functions of the liver, &c. I shall therefore select some of his remarks which more particularly relate to the use of the bile; and which appear to me far more satisfactory than any of the preceding.

“Where the pyloric extremity of the stomach terminates, the chylous canal begins; instead of a smooth and polished surface, it has a folded and corrugated one, by transverse ridges, which have received the name of *valvulae conniventes*. The area of this organ is wonderfully increased by means of this construction. This increase of surface seems evidently designed for two purposes; for the purpose of prolonging and retarding the passage of the ingesta in this part of their course, and for the benefit of increasing the space from whence the lacteal vessels may arise. These ridges, in the living system, are erect and rigid, not loose and flaccid, as we behold them in the dead subject; so that the aliment instead of passing over their angles, is involved within their folds.”

“As the aliment from the stomach enters the duodenum, it appears in general of a pappy consistence, of a greyish colour, is often striated, with a white fluid, and is called chyme. The heterogeneous nature of this mass renders it unapt and unfit to afford nourishment to the blood, whose constant waste it is destined to supply; this part

of the system therefore, by an organization the most admirable, is supplied with means, by which the dross may be separated from the pure parts, the fæculent from the chylous." Mr. Saumarez after these remarks, gives a short description of the insertion of the pancreatic, and excreting ducts of the liver, nearly similar to what has already been given. With respect to the gall bladder, he says, "Its use seems to be, not so much to do good as to prevent mischief, not so much to furnish a regular supply of bile to the chymous canal, as to prevent regurgitation into the liver. It would therefore seem a wrong conclusion which Dr. Rush has made "that the liver is constantly secreting bile," when the mode in which the excretory duct is constructed, shews its entire dependance on the action of the duodenum, and when the chyme it contains renders these fluids absolutely necessary. After the chyme has passed the ductus communis, two very sensible changes in it are beheld, whilst the contents of these ducts are seen floating over it, the chyme assumes a more chylous appearance, and a precipitation of the pure from the feculent

parts are seen to take place, which immediately adhere to the surface of the chylous canal for the lacteal vessels to absorb." For a proof of which, Mr. Saumarez details the experiment already referred to, as related by Dr. Saunders. Then he adds, "Mr. Astley Cooper has informed me, that by opening the stomach and duodenum of living animals, a solution of whatever is digestible, is produced in the stomach; that no sooner is this clear solution mixed with the juices from the pancreas and liver in the duodenum, than a precipitation is produced. The precipitate is the chyle, which adheres firmly to the coat of the small intestines; he is therefore led to think, that from his experiments on living animals, it is the office of the pancreatic juice and bile to separate the nutritious from the fæculent part of the food."

Mr. Saumarez, after proving in a very satisfactory manner, that the arterial blood is more vital than the venous, from the change which it undergoes whilst passing through the lungs; in opposition to Dr. Rush, who asserts, "that venous blood from whence hepatic bile is secreted, is less dis-

posed to putrefaction than arterial blood taken from any other part of the body:" observes, "It is this low degree of vitality which venous blood contains, that renders bile, out of which it is formed, to possess less living, and consequently more sensible properties, than either the gastric or pancreatic juices; we therefore find hepatic bile either in the *pori biliarii*, or *truncus hepaticus*, although possessing sensible properties in a greater degree than either of those fluids, is nearly an inodorous tasteless fluid, and colourless. It is however a law in the animal economy, that in proportion as effects proceed from their causes, they not only lose the identity of their character, but the very purity and excellence of their nature. In conformity to this law it is that the farther hepatic bile proceeds from its source, either when subsisting in the gall bladder, or when mixed with the *fæculent* matter in the intestinal canal that it verges from a living to a dying state, that it loses its innoxious, and acquires its sensible and stimulating qualities, that it then becomes intensely bitter to the taste, offensive to the olfactory sense, apparently heteroge-

neous in its nature, of a consistence extremely viscid, sometimes concreting, and forming calculi.

“When bile has undergone these changes it ceases to act as bile is intended to do; instead of separating the chyme, it unites with it, instead of assisting the progress of chylification, it hurries its total expulsion.

“It is to these decomposed qualities which putrid bile possesses, that physiologists in general have ascribed its virtues; that my honoured friend, Dr. Saunders, in his excellent Treatise on the Liver, has ascribed antiseptic power to the bitterness it possesses after it has become putrid, and that its virtues consisted in its being a mild purgative.

“Attention however to the chylous canal, falsifies the assertion, that canal is especially constructed by the number and transversion of *valvulae conniventes* to retard the motion of the chyme along the first part of its course; it is therefore most unreasonable to suppose that the real and direct intention of the hepatic system is to hasten its expulsion; if this were the case, no harmony between these parts could subsist; the action of the

chymous canal would always tend to prevent the motion which the bile was always destined to promote, so that the ductus communis, instead of opening in the duodenum, ought to discharge its contents upon the cœcum, colon, or rectum.

“Men who reflect on the physiology of the animated system, and can reconcile this warfare of parts, that are dependant on each other, possess very inadequate, and erroneous phantasies of the beautiful harmony and subordination that subsists between the parts, of which the whole is composed; it is far more reasonable to conclude that the hepatic system is designed to co-operate with the chymous canal, and not to defeat the particular intention for which it is especially formed; pure healthy bile therefore, recently secreted by the liver, is on that account a mild and bland fluid; after long residence in the gall bladder, or after uniting with the fæculent matter of the chyme when the chylous precipitation has taken place gradually loses its living, and acquires its chemical properties.”

“ These changes in its nature have taken place when chyfication has been accomplished, and when nothing remains of the chyme but its fæculent parts; it is then that the bile acts by its resin and by its alkali, by its bitterness and yellowness; and where the excrementitious canal consisting of the cœum, colon, and rectum, is its proper seat; the increased magnitude of this part is not only admirably fitted for the putrid fermentation which the feculent matter there undergoes, but the smoothness of its surface (totally unlike the chymous canal either in fabric or design) is favorable to the expulsion of its putrid contents out of the system, as deleterious and foreign; whenever cystic bile is employed, it is rather to stimulate than to separate, to produce expulsion rather than assist chyfication. Cystic bile therefore does in the chymous canal what hepatic bile does in the excrementitious.”

Having finished what was designed with regard to the structure of the liver, and the different physiological opinions respecting the use of the bile; I shall now proceed to the consideration of those

diseases to which it is subject, in the following order.

Hepatitis, or Sthenic Inflammation.

Hepatitis Chronicus.

Synochus Biliosa.

Cholera Morbus.

Periodical Cholera.

Remarks on the indiscriminate use of Purgatives.

Torpor, or Paralysis.

Schirrous.

Biliary Calculi.

It may also be remarked, that besides these original derangements to which the liver is subject, it is also liable to be affected in a secondary way, from its contiguity to other parts, but more especially the stomach, pancreas, and duodenum, when in a diseased state.

With regard to jaundice, as that appearance occasionally occurs in almost every morbid condition of the liver; it cannot therefore I think with propriety be considered, only as a symptomatic affection, as its occurrence evidently does not depend upon a specific morbid action of that organ;

for it is known sometimes to take place in hepatitis, particularly when it arises from calculi in the parenchyma of the liver—In the synochus biliosa, where there is generally a redundancy of the biliary secretion—From some obstructing cause in the duodenum—Calculi in the bile ducts—schirrous state of the liver—or common duct—and from the pressure of contiguous organs, when in a diseased state.

We then should under the general appearance of jaundice, endeavour to ascertain by a careful investigation, as far as we are able, the real condition of the liver; for certainly such a discrimination must appear indispensably necessary, when it is considered that the mode of treatment must be varied, according to the cause by which such an appearance is induced.

The hepatitis, or true inflammation of the liver, is the first morbid affection we proposed to notice; but previous to describing the particular diagnosis of the disease, I shall beg leave to offer a few remarks on the term inflammation, and also on the remote, and proximate cause.

Although it is true, that different nosologists from an early period, have assigned a specific character to inflammation, yet it also must be acknowledged, and regretted, that the term is too often vaguely, and indeterminately applied.

“ A legitimate inflammation is always accompanied with a painful sensibility of the nerves, and an augmented velocity and strength of contraction in the arteries of the part affected.”*

Galen expressed himself with great clearness, when describing a state of inflammation. “ At the beginning of inflammation (he observed) the pulse is larger, stronger, swifter, and more frequent than according to nature; but when the inflammation is increased, the pulse is also increased in these respects.” And in another place he adds, “ This inflammation has something which changes the pulse throughout the whole body, either from the magnitude of it, or the importance of the part in which the inflammation is seated.” From such a clear, and decided definition

* Pearson's Principles of Surgery.

of inflammation, there must appear an obvious impropriety and inaccuracy, in denominating an opposite state to that which characterizes true inflammation by the same common name; and more particularly so, since the indiscriminate application of the term, may involve in it much practical error. And here I cannot forbear quoting the following passage from Dr. Coe's Introduction to his Treatise already mentioned. "In speaking or writing about diseases, we should be as accurate as may be in the use of words; so far at least as to avoid confusion in calling one disease by the name of another, or many diseases by the same name. In order to this, we should not deal too much in general comprehensive terms. There are some general names, which are used for several diseases, that are very different from each other in their nature, their causes, and cure. But we should be very careful how we apply these general names to particular cases, without proper limitations, and distinctions."

The term then of chronic inflammation, should I think only be used as Mr. Pearson very judi-

ously remarks, "when the symptoms of inflammation, are less violent than ordinary, and when the disease gradually increases in extent, and intensity;" and not when there is a diametrically opposite mode of action. "It is necessary however to observe, that there is a considerable variety in the susceptibility of different parts to assume the form of inflammation, nor does this disease always proceed with equal violence and activity; but it is not necessary to assign as causes of these deviations distinct or opposite modes of action in the morbid parts, for an attention to the previous state of the system, and to the seat of the disease, will generally enable us to account for this want of uniformity."

We frequently observe that remote causes operating on different temperaments produce different effects. Thus in the muscular sanguine, or muscular melancholic temperaments, a state of active inflammation is often induced; whilst the application of a similar remote cause on a delicate mobile temperament with muscular debility, produces an opposite state of the system. In the

former instance, the essential characteristics of inflammation will be present; but in the latter only a fallacious appearance will be exhibited; for although the velocity of the vessels in the last mentioned temperament often exceeds the other, yet there is a diminution of the tone of the vessels, instead of an augmentation of their contractile, or tonic power, which forms the essential character of genuine inflammation.

“ There is a considerable variety in the susceptibility of different persons to be affected by the application of noxious powers, and of the same person at different periods, so that the same agent may in one instance produce phlegmon, in another erysipelas, and in another erythismus.”*
Hence, these distinctions point out to the young practitioner, the necessity of acquiring a proper knowledge of the temperaments, which is of so much consequence to the study, and treatment of diseases.

* Pearson's Principles of Surgery.

I shall next state what has been remarked by different writers, relative to the proximate cause of inflammation. "By proximate cause is to be understood, a real physical cause so inseparably connected with the disease that the presence of one implies the presence of the other; upon the existence and duration of the proximate cause, depends the existence and duration of the disease; and if the former be changed, there is also a correspondent change in the latter."*

The ancients supposed that a lentor or viscosity in the circulating fluids gave rise to obstruction, which, being accompanied with an increased velocity of the blood flowing into the obstructed vessels, constituted the principal concurring cause of inflammation. Although it is true that in every inflammation, more or less of obstruction happens; yet it appears more obvious that it occurs rather as a consequence than as a cause. In every inflammation there is an increased determination of fluids to the part where the disease is seated, and

* Pearson's Principles of Surgery.

from collateral pressure, the blood will of course be very much interrupted in its passage through the smaller vessels, and in this way more or less of obstruction will undoubtedly take place; but observation and experience prove that a considerable degree of obstruction often subsists for a length of time, without exciting inflammatory action.

Dr. Cullen remarks on the proximate cause of inflammation, “that some cause of inequality of the distribution of the blood may throw an unusual quantity upon particular vessels, which must prove a stimulus. But further, it is probable, that to relieve the congestion, the *vis medicatrix naturæ* increases still more the action of these vessels, which it effects by a formation of spasm on their extremities. A spasm, therefore, of the extreme arteries supporting an increased action in the course of the same, may be considered as the proximate cause of inflammation, at least in all cases not arising from direct stimuli applied.”

“As the several phenomena that constitute an inflammation are only learnt by the diligent study

of nature ; there can be very little room for debate upon such appearances as are the objects of sense : and when the symptoms that characterize a disease are once duly ascertained, and verified, we ought next to endeavour to detect laws by which they are regulated.

“ But to exalt any single phenomenon to the rank of a proximate cause, while it impedes farther inquiry, must prove a fertile source of fruitless contention. Let it be granted, that bile, acidity, lentor, plethora or spasm, is the proximate cause of inflammation, and then enquire how much true science is gained by it. What is that general law of the system, by which the connection between the remote and proximate cause is regulated ? Any of the causes above enumerated may exist in the body, without being necessarily accompanied by the presence of phlegmon ; which is a strong presumption that they are simple phenomena, and by no means characteristic of the form or essence of the disease.”* We then

* Pearson's Principles of Surgery.

conclude, on this part of the subject, with the same author, in confessing our inability of satisfactorily explaining the proximate cause of inflammation.

Having offered these preliminary remarks, I shall now proceed to describe the symptoms of

HEPATITIS.

From what has been previously stated relative to the singular structure of the liver, particularly the smallness of the vessel that supplies it with arterial blood; when compared with the bulk of the viscus itself, and the very great proportion of venous blood that circulates through the vena portarum, and its numerous ramifications; together with the slowness of its motion, and the vena portarum itself not possessing any sensible degree of muscular irritability, which appears to have been proved from different experiments; it seems probable that the concurrence of these circumstances may be assigned as a sufficient reason, why the disorder occurs so seldom in this climate,

from the application of those powers which operate as the remote cause of inflammation in general.

We are however informed, by different writers on the diseases of warm climates, of the frequent occurrence of the disorder amongst Europeans in such latitudes ; which no doubt is owing to the peculiar effects of the stimulus of heat on the liver, aided by the use of spirituous and vinous liquors.

Both ancient and modern nosologists, have made a distinction between the symptoms that occur when the inflammation occupies the convex, and those that occur when it occupies the concave surface of the liver. It is said, when great difficulty of breathing and cough accompany the pain in the region of the liver, that these symptoms indicate the inflammation to be seated in the superior, or convex part : but when the inflammation is seated in the concave, or inferior surface, which lies contiguous to the stomach and duodenum, there is more of sickness, and vomiting, and the pain in the region of the liver is not so violent as in the other instance. "It seems probable (says Van Swieten) that the ancients sup-

posed the gibbous part of the liver to be inflamed when the malady resided in the extremities of the hepatic arteries, and to be in its hollow part when the extremities of the vena portarum were in like manner affected." Hence their distinction of arterial, and portal inflammation.

Modern writers have adopted the names of acute and chronic, in the place of the former, still however preserving the same idea as the ancients, with respect to the seat of each.*

From what I have myself seen of the disease, I am convinced that the symptoms are not so unequivocal as represented by nosologists.—I shall therefore beg leave to relate the following case, not only as an instance of deviation, but likewise for the sake of communicating the peculiar circumstances attending it. A woman, upwards of seventy years of age, of a muscular sanguine temperament, some years ago was seized with those symptoms of hepatitis, which are said to indicate the concave surface of the liver being af-

* See Dr. Saunders's Treatise.

fect; together with the usual symptoms, the liver also appeared considerably enlarged, which ultimately terminated in a suppuration of its convex surface. The matter was discharged at an external opening, and the patient very soon after recovered her usual state of health. There remained however a slight oozing from the part for a twelvemonth afterwards, which was not attended with the least pain, or inconvenience to her.— One day, during a violent fit of sneezing, a large gall-stone forced its way out at the small orifice which had remained. It resembled nearly an olive in shape, and measured about an inch in length, and the same in circumference. It was of a light yellowish brown colour, striated, and very compact. The woman lived several years afterwards.

“ It seems probable (says Dr. Cullen) that acute hepatitis is always an affection of the external membrane of the liver, and that the parenchymatic is of the chronic kind.” Notwithstanding this sentiment is advanced by such high authority, it does not appear to be the result of ac-

tual observation.* In every case of real inflammation that I have met with, the parenchyma of the liver has evidently been affected, from the increase of its bulk; consequently the membrane also which covers it, must necessarily become inflamed from the distention produced; and therefore those symptoms which are said to be peculiar to membranous inflammation, exactly resemble those whenever I have found the liver sensibly enlarged from inflammation. I do not deny the possibility of such an occurrence; but I am inclined to believe, that whenever the membrane is merely affected, it is more of the nature of erysipelas, or erythema, communicated perhaps from some other part of the peritoneal covering of the abdominal cavity.

* “The hardness of the pulse, and increase of pain, is never to be imputed to the inflammation being seated in the membrane; nor is the softness of the former, and dullness of the latter, to be attributed to its occupying the soft parenchymatous substance, it being impossible that an inflammation, if it occupied either of those parts, should not effect the next points of the vessels in the other.

“Such, however, and many other distinctions, equally false, frivolous, and misleading in the practice, have been

Van Swieten mentions an erysipelas attendant on an epidemical disease, related by Bianchi, " These patients (he observes) being seized with a very acute pain, perceived a most severe burning in their right hypochondrium : their urine was flame coloured ; and scarce any swelling or tightness was perceptible about the liver ; but in some an erysipelatous redness of the skin, often of a deep red colour, occupied the whole hypochondrium."

From consulting different authors it appears evident to me, that some of them have confounded symptoms of synochus biliosa with those of hepatitis ; as it has been observed by some writers, that in all cases of inflammation of the liver, the quantity of bile is increased, and the evacuations become bilious. So far from that being a general occurrence in hepatitis, I have never yet met with an instance of increased biliary secretion ; for on the contrary, it commonly happens that there is a deficiency of it, which is evinced

at all times universally received by systematic, and lately by nosological writers"—Dr Brown's *Elements of Medicine*, vol. ii. page 281, 282.

by the inactive state of the intestines. It is true, the synochus biliosa is frequently attended with an increased secretion of bile, and bilious evacuations, which confirms me in the opinion, that the one disease has been mistaken for the other.

The symptoms which usually indicate the presence of hepatitis, are a sense of chilliness, preceding a fixed, pungent pain, seated under the false ribs of the right side, which is much increased on the patient's endeavouring to take a deep inspiration, or attempting to lie on the opposite side—the ordinary respiration is hurried, and difficult—the pain is often aggravated on pressure, accompanied with a perceptible enlargement of the liver—the skin is hot—pulse full, hard, and frequent—white and sometimes yellowish fur on the tongue—thirst, urine high coloured—bowels in general constipated.—Sometimes there is a cough, though it is not so troublesome as in pleuritis. When the inflammation is produced by a mechanical cause, such as calculi in the parenchyma of the liver, it is sometimes attended with a yellowness of the eyes, and skin, and the biliary

secretion is more affected, than when the inflammation is occasioned by those causes which produce it in general. If the symptoms of inflammation should run high, there will be danger of suppuration taking place in the course of a few days, unless the appropriate means are used, and proportioned to the degree, and extent of the inflammation. And it may not be amiss to observe, that it often happens, that the best means fail of producing a beneficial effect, from the inefficient mode of their application. For instance, when symptoms indicate the necessity of venesection, if instead of taking away forty, or fifty ounces* of blood, only half of that quantity is drawn off, the inflammation will not yield, because the quantity is too small to answer the purpose of reducing the inflammatory action, so as to effect a cure by resolution.†

* The quantity is meant at different times.

† I lately met with a case of hepatitis, which at first appeared to be pleurisy, the inflammation being seated so high up on the convex surface of the liver; and although a considerable quantity of blood was taken away,

As bleeding is the chief remedy to be depended upon in hepatitis, as well as in all other active inflammations; the quantity must be regulated according to the age, temperament of the patient, the degree, and extent of the disease. I generally suffer the blood to flow from the arm until a change is felt in the pulse; as it is much better to take away a large quantity at once, and from a free orifice, than small quantities often repeated.* Blistering the part will be proper,† and the exhibition of saline medicines. The following will be found a convenient form:

R Kali. limon. ʒij.

Aq. menth. pip.

Puræ. a a ʒiij.

Tinct. digital. gtt. 60.

Sacch. alb. ʒj. m. ft. mist. capt. coch. ij. 4tis. horis.

suppuration took place. The abscess was opened, and afterwards I passed a seton, which discharged some time, and the person perfectly recovered.

* Some useful remarks may be met with on blood-letting in Dr. Pemberton's Treatise on various diseases of the abdominal viscera, which I had not seen till after the above was written.

† Dr. Saunders recommends a succession of blisters to the part.

The bowels must be kept freely open, as that will very much tend to lessen the determination to the liver, and consequent congestion of its vessels: this intention will be best accomplished by giving calomel as a purgative, or a solution of any of the neutral salts—the whole of the antiphlogistic, or debilitating plan of regimen, must at the same time be strictly attended to.

If the symptoms of inflammation do not abate after the use of the proper means, there will be reason to apprehend that suppuration is about to take place; especially if the patient should be seized with rigors. If therefore the suppurative process becomes evident, and the matter points outwardly, it must be promoted by the application of warm emollient cataplasms to the part. When the maturation is complete, the abscess must be opened, and the result of such cases is generally favourable. But on the contrary, if the abscess has a communication with the cavity of the thorax, or the lungs themselves; or the matter is discharged into the intestine, or cavity of the abdomen, the termination is commonly fatal.

Schirrous is a frequent termination of hepatitis, especially in warm climates: and will often occur even where the most active means are employed. When it takes place, mercury must be used, either taken internally, or externally applied to the region of the liver, until the system becomes affected, and the enlargement subsides.

It has been supposed from the symptoms, that the disorder has sometimes terminated in gangrene. "I have seen some instances (says Dr. Saunders) where the pain and inflammation have subsided very suddenly, and have been succeeded by a low, fluttering pulse, cold extremities, delirium, and death; so that there has been reason to suspect, that this organ may on some occasions, though much less frequent than others, become gangrenous."

The remote causes of hepatitis, are in general, sudden exposure to cold, after being overheated. Calculi in the parenchyma of the liver, or passing through the *pori bilarii*, or some large ones in the gall bladder.* The bile also from a hurried

* "An inflammation and fever may also be accidentally joined with stones in the gall bladder, when there are none

secretion, is not only redundant, but very often is rendered highly acrimonious by the stimulus of heat, and thus may re-act on the liver, and induce the disorder. The frequent occurrence of hepatitis in hot climates, renders the suggestion probable ; because were it not so, other organs of the body, whose vessels are far more sensible, and irritable, than the vessels of the liver are, would naturally be more liable to be affected with inflammation.

The immoderate use of spirituous liquors, has been classed amongst the remote causes of hepatitis ; but their pernicious effects will be hereafter more particularly considered, as rather tending to induce a state of chronic enlargement, or schirrous of the liver, than of active inflammation ;

fallen into the duct. Thus it happened to one of the two patients whose histories are related by Dr. Frewin, as it also has to many others ; and these stones have often been extracted, or discharged with the pus, from an abscess in the liver, which has communicated with the gall bladder, and by an adhesion of the peritoneum, made its way to the external teguments, and either broke of itself or been opened by art. On opening the body of that lady mentioned by Dr. Frewin, there was found an abscess in the liver, and the gall bladder contained six stones of the size of a nutmeg."

unless in hot climates, where their use is combined with the stimulus of heat.

CHRONIC INFLAMMATION.

It has been suggested by Dr. Saunders as his opinion, that the seat of chronic inflammation is in the vena portarum, which was also the opinion of some of the ancient physicians. But such a circumstance does not appear probable ; for I am inclined to think with Mr. Pearson, that a true inflammation is principally seated in the blood vessels, which are possessed of a systole, and diastole, and that are more immediately affected by the heart's motion, which is not the case with respect to the vena portarum, as it does not appear to be possessed of any muscular irritability.

Dr. Saunders also observes, that the essential character of this inflammation is debility.

It is observed by the late Dr. Brown, in his *Elements of Medicine*, that “ the cause of asthenic inflammation is also abundance of blood in the inflamed vessels, producing the same effects in

the inflamed portion as in the sthenic inflammation; and, notwithstanding the penury of blood in every part of the vascular system besides, flowing abundantly into the inflamed vessels, upon account of a greater atony and laxity in them, than in the others, distending them and producing the phenomena peculiar to any inflammation."

"As it would be esteemed absurd in Physicks to affirm, that an atom could move in contrary directions at the same instant of time, so it would be equally unreasonable to suppose, that the human body, or any part of it could exist in opposite conditions at the same period. To assert therefore the subsistence of an inflammation in any particular part, while the same part labours under an affection which implies a state the reverse of inflammation, would be inaccurate and unphilosophical."* As such we consider the above definitions of chronic, or asthenic inflammation, and therefore again repeat, that the term chronic inflammation should only be used in the sense

* Pearson's Principles of Surgery.

previously stated; viz. when the symptoms are less violent than ordinary, and the disease increases in extent, and intensity; and not to apply the name to a state of asthenia, or debility, which implies a state the reverse of inflammation, as hath already been defined.

It appears from the testimony of the best writers on tropical diseases, that the chronic form of hepatitis more frequently occurs than the acute in hot countries, where the disorder is endemial. And it is often so very insidious in its manner of attack, that there has been no suspicion of its being present, until it has been ascertained by dissection, when the liver has been found in a state of suppuration, or otherwise such a degree of derangement had taken place in its organization, as to evince that inflammation had preceded.

Dr. Pemberton mentions that in chronic inflammation, the pulse is almost invariably intermitting; a symptom I have not met with, in either inflammation. But the last autumn I attended a gentleman, who was attacked with cholera morbus, and whose pulse intermitted at every third or fourth

stroke, which continued three or four days, and alarmed me, particularly as I knew his pulse was not so naturally. After a further copious evacuation of bile from the intestines, it became regular. Therefore when the passage of the blood through the hepatic artery is obstructed by a schirrous state of the liver, or from an accumulation of blood in the branches of the vena portarum, or of bile in the hepatic ducts, an intermission of the pulse may be induced from either of these causes ; because the blood in the hepatic artery meeting with considerable resistance, will be thrown back upon the heart, and produce a labouring and irregular motion of that organ.

I lately met with an instance of chronic inflammation in a man about forty years of age, of a muscular melancholic temperament, who had been ill about eight weeks. He complained of considerable pain in the right hypochondriac region, which was increased on his taking a deep inspiration ; pressure also increased the pain, but there was no perceptible enlargement of the liver—pulse rather frequent, and full, with a hard

stroke—tongue white, belly regular, urine high coloured, countenance sallow. Although he had been so long indisposed, he was able to walk about. Before I saw him he had been once bled, and had taken medicines, but without obtaining any relief. As his pulse continued hard and frequent, I advised his losing twelve ounces more of blood; which had a thick buffy coat, and assumed the cup-like appearance, or concave surface. A blister was also applied to the affected side, and the following medicines were prescribed:

R Calom.

Opii. a a gr. j. Cons. rosæ. q. s. ft. pil. omn.
nocte. sumend.

R Aq. ammon. acet. ℥ij.

Menth. pip.

Puræ. a ℥iij.

Tinct. Digital.

Vin. antim. a a gtts 60. M. capt. coch. ij. ampl.
ter in die.

In the course of ten days he appeared entirely free from every symptom of the disease.

The chronic form of hepatitis terminates in the same manner as the acute, by resolution, suppuration, and schirrous.

A similar plan of cure must be adopted as in the acute form, but not carried to the same extent. As the symptoms are less violent, mercury may on that account be much earlier employed.*

Dr. Pemberton recommends Cheltenham water, which however should certainly be used with great discrimination, and only the water of the saline spring should be drunk, unless nothing but debility of the organ remains. He also advises the exhibition of the taraxacum.

* From the report of various practitioners, the nitric acid has been found very useful.

SYNOCHUS BILIOSA,

OR

BILIOUS FEVER.

This disorder frequently bears a greater resemblance to acute inflammation of the liver, than to any other morbid affection of that organ, with which we are acquainted in this climate. Having some years ago published a treatise on this disease, I shall therefore transcribe what I have therein stated, respecting the symptoms—type—remote, and proximate cause—and method of cure.

Although the symptoms of this fever are so frequently diversified, in different persons who are attacked with it; yet I think, with Dr. Pearson, that from its leading phænomena, it may very properly be termed bilious.

It was in the autum of 1797, that this disorder became prevalent here; and which did not (as is usually the case in bilious complaints) decline on the approach of winter, but has continued, more or less, the prevailing epidemic throughout the different seasons of the year, ever since the above period; yet having its form somewhat changed, with the vicissitudes of season.

“ This disease did not make its appearance in close and confined situations, but at the extremities of the city, where it is most airy; and where it prevailed some time before I met with a single case of it in the interior parts of the city, although afterwards it became general. This circumstance corresponds with the account given of its appearance at Birmingham, by Dr. Pearson. “ This fever (he says) has prevailed amongst the country people, and those employed in labouring out of doors, as much proportionably as amongst the inhabitants of towns; and amongst the last it has frequently appeared in the houses of tradesmen of the better class, whose diet, as well as that of their servants, is very substantial.”

There was nothing however uncommon in the symptoms of this disease, when it first appeared; the leading characters of it were chilliness, sickness, vomiting, and diarrhœa; generally attended with pain in the bowels, back and head; sometimes with cramp in the lower extremities. The tongue was commonly covered with a white and yellowish mucus. In general there was an increase of heat of the skin, and quickness of the pulse.

In the spring of 1798, the disease assumed a more complicated form, putting on, in several instances, the appearance of acute rheumatism; the pain was mostly about the face, ears, and neck. In one case, where there was a violent pain and swelling of the right side of the face, it was followed by a paralysis of the muscles of that side: In two other cases, there was a paralysis of the eye, which succeeded to the violent pain.* It is

* "This combination of rheumatism with the bilious fever was often accompanied and followed by paralysis of the limbs, which however, generally yielded in a short time to the usual remedies."—Dr. Pearson.

necessary to observe, that the connexion of the above symptoms was clearly evinced by these pains alternating with those of the stomach and bowels, as well as by a redundancy, and vitiated state of the bile, occurring at the same time. As the spring advanced, the disease put on more of a pleuritic form; and that again, in proportion as the heat of the weather increased, was combined with cholera. Sometimes it happened, that a person was attacked with only one of these varieties of the disease; but very often the same person had a combination of the cholera with the pleuritic, or of the choleric with the rheumatic.

Since the summer of 1798, I think, all the varieties of the disease have been more indiscriminately intercurrent with each other.

Very often the disorder assumed the appearance of dyspepsia and hypochondriasis, and those who are not sufficiently acquainted with its nature, and different modifications, will no doubt, be very liable to mistake these symptoms for original diseases; and indeed, unless the complaint be very extensively seen, it will be extremely difficult

to detect it in its various forms. I have known a variety of nervous medicines given for a length of time in such cases, without any benefit being derived from them ; and yet after exhibiting a pretty brisk purgative, as calomel and jalap, patients have been speedily relieved from the most distressing feelings. Sometimes an emetic has been given in those cases, with obvious advantage. In the last mentioned forms of the disorder, the bowels are generally very torpid, the pulse is often quick, and the tongue white ; but perhaps the latter symptoms are not so particularly attended to by the practitioner, as they ought to be ; the patient's description tending very much to impress his mind with the idea of the disease being either dyspepsia or hypochondriasis.

Having given a general view of the disease, I shall now proceed to give a more circumstantial detail of the diagnostics peculiar to it.

For the most part it commences with a violent shivering fit, which afterwards recurs, but not so severely as at first. Sometimes it happens, that there is no chilliness felt by the patient till three

or four days after the commencement of the usual febrile symptoms. At other times, the disease is ushered in by a sudden giddiness, and dimness of sight; and under these circumstances the person often falls down, and remains insensible for some time. Frequently, also, pain in the side, and bitter taste in the mouth, are the primary symptoms; and not unusually a numbness either of the upper or lower extremities.

The pains attendant on this complaint are very general, and very shifting, being felt in every part of the body in the course of a few minutes; though in general they are more permanent in the stomach and bowels than elsewhere; also betwixt the shoulders, and in the sides.* Very often there is a pain of the back, as low as the os sacrum;

* Although the pain in the side, so frequently occurring in this disease, be very violent, occasioning a considerable interruption in respiration, yet it is not so fixed as in true pleuritis, often alternating with pain in some other part; and is not attended with so much cough.

and from its manner of attack, very much resembling violent paroxysms of spasm.*

The head is commonly, though not always, affected with pain, and particularly about the eyeballs; not always fixed, as above hinted, but alternating in general with pain in some other part.

There is a great disposition to drowsiness, but seldom much suffusion of the eyes, or confusion of ideas.

Pain, swelling, and inflammation of the large joints, resembling acute rheumatism, are frequent attendants; with this difference, that the inflammation occurring in this disease sometimes terminates in suppuration, and ulceration. In a case of this kind which happened, there was also a caries of the bones of one of the toes; and it is very remarkable, that as soon as the morbid action of the toe ceased, a morbid state of the bowels (which had been previously affected) immediately recommenced.

* “The back suffered very much in this disorder; the stoutest men complained, and even groaned under it.”—Rush.

The pulse in general is pretty strong, full, and frequent ; but sometimes neither its strength or frequency is increased, although the other symptoms indicate the presence of fever.*

This circumstance happens indiscriminately, to those patients who are able to walk about, and to those who are confined to their beds :—the pulse does not vary much in the course of the disorder, even when it continues for several weeks; in some few cases, however, which proved fatal, the pulse towards the termination, became small and weak.

The state of the skin is variable ; sometimes its heat does not exceed the natural temperature ; but in general there is an increase of heat, often so intense as to communicate an unpleasant tingling sensation to the fingers, on feeling the pulse. Frequently the patient is relieved by the breaking out of a sweat ; at other times no abatement of pain ensues, although the perspiration continues the greatest part of the night.

* I am well aware of the natural difference in the state of the pulse, as accurately described by Dr. Falconer.

Jaundice is another symptom which occurs in this disorder, and which is not occasioned in general by any obstruction in the biliary ducts, but from a redundant secretion of bile, as considerable quantities have been discharged from the stomach and bowels. It has happened, however, in a few cases, that the passage of the bile to the duodenum has been impervious for some time; and then the patient is attacked with violent spasmodic pains, referrible to the insertion of the ductus communis choledochus into the duodenum, and the *fæces alvinæ* are clay coloured.—The yellowness of the skin is not always attendant on this obstruction; and sometimes it is only partial; appearing in irregular patches on the arms, and disappearing again in the course of a few days.

Persons, it appears, attacked by this form of the disorder, suffer more severely than in any other; and although the obstinately constipated state of the bowels renders it necessary to give very strong purgatives, yet they often require to be combined with *æther* and *opium*; nor is any relief obtained,

until a copious evacuation of dark bile from the intestines take place.

The tongue exhibits different appearances; but in general, as already observed, it is covered with a white yellowish mucus; it is very seldom dry, or brown; when the fever goes off, it often assumes a smooth shining appearance; sometimes it appears as clean as in health.

Since the commencement of the last autumn, I have observed a very peculiar appearance of the tongue; its tip looks preternaturally red, and there is a considerable enlargement and redness of the papillæ, exhibiting, in some persons, a very beautiful appearance. Sometimes the enlargement* extends as far as the middle of the tongue, penetrating the fur in several places.

* The enlargement continues for a time after the patient becomes convalescent; in some cases this appearance takes place without the redness. No author whom I have yet met with, notices this circumstance, except Dr. Willan, who in his late account of the diseases of London, mentions it as occurring in apthous fever, but not in the bilious.

There was another very singular appearance of the mouth I met with in two cases, the relation of which may be acceptable to the reader. In August, 1800, I was requested to visit two men who had been labouring at the harvest, and were seized with a violent pain in their bowels. One of them had a diarrhœa, the other was obstinately costive; both vomitted a dark green matter. The inside of their mouth and gums was of a deep red colour, the gum opposite to each alveolar process appeared as if painted with a delicate black circle; and there were also several black patches on the inside of the lips; the tongue was slightly tinged with the same colour.

The men attributed their illness to drinking stagnated water, and to their victuals being boiled (as they supposed) in improper vessels;* and indeed, such an unusual appearance of the mouth

* Upon questioning their employer, however, I found that his domestics had lived upon the same food as these men, without any bad consequence; and he informed me, that during the very hot weather, they had drunk freely of strong liquors,

made me suspect, at the time, that might have been the case. They both recovered ; but I was informed that one man, who had been working along with them, died of the complaint.

Some time after these cases occurred, I met with a description of a similar appearance in Dr. Chisholme's Account of the Malignant Pestilential Fever of the West India Islands. "There are two kinds of eruption," he says, "about the lips, of very opposite nature; one, such as appears at the termination of remittents, and indicating a favorable change; the other, consisting of black spots or specks, such as might be made by the point of a painter's fine pencil, all around the lips and near the edge of the prolabium, and indicating a fatal termination." From this resemblance, I therefore concluded, that the disease in these men was the prevailing epidemic, heightened by the circumstances of the extreme heat of the weather, and their drinking freely of strong liquors. †

† Since the occurrence of these cases, I have met with two or three with the same appearances in a slighter degree.

Hæmorrhage from the lungs, stomach, and intestines, has frequently occurred, but more commonly from the latter, and very often in large quantities; it has seldom, however, been attended with any serious consequences, except in a few cases in the pneumonic form of the disorder. In several cases there has been a considerable determination to the uterus, producing frequent occurrence of menorrhagia; and that even in women, with whom the catamenia had ceased for a number of years.

Suppression of urine is another very common symptom in this complaint, which is often attended with considerable pain, tension above the os pubis, and heat in the urethra; sometimes it happens that there is a deficient quantity, without much pain.

The colour of the urine does not in general exhibit any particular appearance; it is sometimes of a bilious tinge, at others of a brandy colour, and not unfrequently of a coffee colour, with a copious sediment resembling the grounds of coffee; in general, however, it is not higher colour-

ed than naturally. The appearance of the sediment is very uncertain; I have seen it take place on the fifth day, and not appear again during the remaining course of the fever.

As before observed, there is commonly a preternatural secretion and excretion of bile; great quantities being discharged from the stomach and bowels, of different colours; green, yellow, and sometimes as dark as pitch. The vomiting which so often attends this complaint, for the most part, takes place at its commencement; although I have known it not to occur till a fortnight after the attack.* Except in the choleric form of the disease, the bowels are generally very torpid. This torpidity does not, I believe, arise from a deficiency of the usual stimulus of the bile; but from a vitiated state of it, producing great indirect debility of the intestines. I have known a patient labouring under this complaint, not have any evacuation from the bowels for six weeks, but

* When this symptom appears so late in the disease, what is discharged from the stomach is of a dark colour, and forms an unfavorable prognostic.

what was occasioned by a purgative, which brought away, at each exhibition, a considerable quantity of black bile.

Having thus endeavoured to give as clear an account as I am capable, of the symptoms and other phenomena of the bilious fever, I shall now proceed to make some observations respecting its type.

The fever here has generally assumed a continued type;† but Dr. Pearson says, that at Birmingham “it commonly appears under the form of a remittent; sometimes however, it is of a continued type from the first, and in most instances it is more or less so during its height. In its mildest degree, and as the patient advances towards recovery, its form is intermittent.” He in another place observes, “if it were more of a regular or continued type, it might be referred to the synochus of some nosologists, and according to its various modifications might be distinguished into synochus gastritica, when accompanied with

† Since the above was written, the type is not so uniform; as it has been sometimes remittent, and, in a few instances intermittent.

gastritis ; synochus cholericæ, when accompanied with cholera ; synochus dysenterica, when accompanied with dysentery ; synochus pneumonica, when accompanied with inflammation of the lungs." It may, therefore, I judge, very properly be referred to the synochus, as it has but seldom assumed the remittent form ; yet not altogether agreeing with Dr. Cullen's definition,* as a typhoid state is very rarely induced. It cannot then, in my opinion, with any propriety, be considered as a variety of typhus, but as a distinct genus of fever. Some are of opinion, that the resemblance of inflammatory action, at the beginning of fevers of this type, is only the fallacious re-action of the system, in consequence of the exertion of the vis medicatrix naturæ, to obviate the remote causes of the disease. It must be acknowledged, there is a difference between idiopathic inflammation, and a symptomatic one, such as occurs in epidemical, or contagious fevers.

* Febris ex synochâ et typho compositâ, progressu et initio synochâ versus finem typhus—Culleni Synopsis.

In a practical point of view, this distinction appears to be of great importance; for when original inflammation is once excited, it no longer depends upon the presence of its remote cause, for its continuance; and if the increased action of the system be sufficiently reduced by proper means, the disease is at once subdued. But it is quite otherwise in the inflammatory action occurring in fever; as it depends upon the presence of its remote cause for its continuance; and if the system be ever so much reduced, the disease will run its usual course; which evidently shews, that there is some peculiar mode of action, different from that which occurs in simple inflammation. This difference has been formerly noticed by Dr. Huxham. "When we have a suspicion" says he, "that a fever arises from contagion, we should proceed with caution in letting blood, even though the symptoms may run pretty high at the beginning, and seem to demand the taking off a pretty large quantity. In truth, bleeding in a contagious disease, as arising merely from contagion, seems not indicated; because the contagion is intimately

mixed with the humours, and by drawing off a small part of the blood, you very little lessen the whole contagion, which will have its effects more or less, whether you bleed or bleed not."

Dr. Pearson observes, that, "this fever in its first stage did not appear to be contagious, but it was evidently so after the eleventh or fourteenth day, when the typhoid state was induced." Dr. Willan says, "the synochus biliosa, (Sauvages de febris) though a disease frequently occurring during the summer months, in the vicinity of London, has not been accurately described by our practical writers, who seem, in general, to have confounded it with the malignant or putrid fever. Its symptoms, however, are very different, neither is it communicated by contagion." I am of the same opinion as Dr. Willan, both with respect to its being essentially different from typhus, and in not being propagated by contagion.

By contrasting the two diseases in the following manner, we cannot but perceive a manifest difference.

TYPHUS.

Great indirect debility suddenly induced, and this in general happens even in mild forms of the disease.

SYNOCHUS BILIOSA.

Indirect debility not so sudden, nor so great.* Many persons labouring under the disease are not only able to walk about, but some are also capable of working, notwithstanding that the febrile symptoms run high.† Another circumstance worthy of remark is, that when the muscular strength is kept up, there is generally a depression of the nervous power of the system, and when muscular debility is induced to that degree so

* Dr. Blane, in his Observations on the Diseases of Seamen, remarks, that the bilious remittent fever was attended with less debility than the ship fever.

† From this it would seem, (as Dr. Rush has observed of the yellow fever) “that the remote cause of the disease acts as a gentle stimulus on the system.

as to confine the patient to bed, he seldom complains of lowness of spirits.

The pulse is often small, quick, and weak from the beginning; but universally so towards the termination.

Pulse, as already observed, is frequent, full, and hard; and that in general through the whole course of the disease, even when it terminates fatally.

In general the determination to the head is very considerable, with suffusion of the eyes, and more or less of delirium.

Although there is often very acute pain, seldom any delirium takes place, the senses remaining perfect almost to the last; even in cases of fatal termination.

Stomach and bowels seldom deranged from a morbid secretion of the biliary organ.

Stomach and bowels almost constantly affected, from an increased and altered secretion of bile.

In general there is a

Very seldom marked

regular termination; and by any perceptible crisis; and if it does not some obvious change in the system.

terminate within the third week, it usually continues several weeks, and sometimes many months.

Tongue soon becomes dry, brown, and black.

Tongue sometimes as clean as in health, but for the most part of a whitish yellow colour, moist, and with enlarged papillæ; very seldom brown.

I am inclined to think from the coincidence of the leading symptoms of the complaint, and the morbid similarity exhibited on dissection; that this fever is only a diminutive species of the bilious, or yellow fever, which occurs in hot climates.

If the following cases are compared with the usual morbid appearance, as related by Drs. Rush, Chisholme and others, the reader must perceive an obvious resemblance.

The first was a woman about forty years of age, who had been ill about eight days of the pleuritic form of the disorder. On examining the abdominal viscera, the vessels were much distended with blood, and the small intestines, in several places, of a dark colour. The liver appeared rather enlarged, but did not exhibit any other morbid alteration, except a little yellow thickening of its membrane on its inferior convex surface. The gall bladder was nearly full of bile, of a natural appearance. In the cavity of the thorax on the right side was found a large quantity of yellow serum, and the lung covered with coagulable lymph. The left side of the thorax appeared free from disease, except that there was a preternatural quantity of water in the pericardium, of a yellow colour.

In the other case also the viscera of the thorax, and abdomen, were found in a very diseased state.

The small intestines, particularly the beginning of the duodenum, were very livid, and the pancreas firmly adhering to it. The spleen was reduced to a dark, soft, pulpy mass. The liver did

not assume any particular morbid appearance. The gall bladder was nearly empty. The stomach at its upper orifice was of a dark colour. The cavity of the thorax on each side was remarkably dry; the lungs were much inflated and the upper part of the lobes of a dark red colour. The heart was exceedingly flaccid, and the pericardium contained six ounces and a half of serum.

From the frequent occurrence of a vitiated state of the bile observable in this order, as well as a redundancy of it; we are led to conclude that the remote cause of the disease acts chiefly on the liver, increasing the quantity, and changing the quality of the biliary secretion.

“ There can be no doubt of the contagion acting specifically on the liver, and thereby altering the qualities of the bile.”*

The bile under such circumstances, like any other foreign stimulus, produces considerable irritation when applied to the intestinal canal; which is often communicated to the general sys-

* Dr. Rush.

tem; either by its highly stimulating effect on the intestines, or from its regurgitation into the circulation, owing to the excess of quantity, and the bile duct not being capable of transmitting it into the intestines as fast as it is secreted. This is often manifested by the yellow colour of the skin and eyes—the serum of the blood, and the serous effusion found in the different cavities of the body.

The following passage from Van Swieten's commentaries, favours the opinion just suggested, as well as the testimony of other writers, both ancient and modern.

“ When by any cause the bile, which is of all the natural humours of the body in its own nature the most acrid, is rendered still more acrimonious, it is then said to be exalted, because it excites such disturbances in the body, and frequently proves the cause of the most ardent fevers. That the bile is exalted by the summer heats, we are taught by constant observations, from hippocrates even to the present time; whence, after very hot summers, autumnal bilious fevers are always found.

very common. But unless the corrupt bile is evacuated, either spontaneously or by art, in the beginning of these fevers, they usually hold the patient very long, and towards the end of the disease a diarrhæa or dysentery is excited by the putrid bile; which discharge, the patient's strength being already extenuated by the preceding disease, he is often unable to support; as we shall hereafter explain more at large, when we come to treat of vomitings in fevers. Hippocrates tells us, that the body becomes more bilious by the summer heats, and that the bile put in motion is the cause of anardent fever; and in several other places he says, that the bile is the cause of most acute diseases." In another place he remarks, "But when the fused atra bilis, put into commotion, flows through the arteries with the rest of the blood, if it settle not upon any certain parts of the body, it will yet disturb all its functions by the vicious acrimony imparted to the intermixed blood; from whence fevers often of the worst kind may ensue."

“ I have often been astonished (says Dr. Huxham) to see a porraceous and black bile (which is abundantly more acrimonious than that) thrown up by vomit, which corroded metals, and boiled up on the ground, like spirit of vitriol dropt thereon; and so austere that it set the teeth strongly on edge, and excoriated the throat. I treated a sailor some time ago, who upon his return from Virginia being seized at first with gripings, and afterwards with violent convulsions and delirium, vomited a large quantity of dark green, and sometimes a very black and acid bile. The attendants having introduced a silver spoon into his mouth, during his convulsions, that he might not bite his tongue, it in a moment turned as black as if it had been stained with spirits of nitre.”

“ I remember (says the same author) about fifteen years since, that having ordered a young gentleman to be blooded, who was a great lover of acids and cyder, and on this account frequently seized with colic and rheumatic pains, I was amazed to find the serum as green as the juice of leeks.”

"Bile," says Dr. Saunders, "is a stimulus by which tone and energy is conveyed to the intestines and to the whole body; the defect of which in the *primæ viæ* is more productive of disease than its excess. In the latter case, if it be faulty in its nature, it only proves a salutary purgative; but if in a diseased state, it deranges the animal economy, like any other foreign stimulus which may be applied to the intestines."

METHOD OF CURE.

Although the mode of treatment in this disease must be necessarily somewhat varied, from its different modifications; yet the principal object in the curative indication is to carry off the vitiated bile, and not to allow its accumulation in the intestinal canal. I was led to this practice, more particularly, from observing the speedy recovery of those persons who were attacked with spontaneous evacuations from the bowels, at the commencement of the disorder; as well as from considering the great success attending the exhibition

of purgatives in the yellow fever, as mentioned by Dr. Rush. And as the result has more than equalled my expectations, I would, therefore, refer the reader to Dr. Rush's excellent observations on the subject. There are also other testimonies in favor of this plan in fevers of a similar nature. In the month of August, in the year 1743, when the British forces were much harrassed with the remittent fever, it is observed, "if evacuations were either neglected, or too sparingly used, the patient's fell into a continued fever, and sometimes grew yellow as in the jaundice. When the season was further advanced, this fever was attended with a cough, rheumatic pains, and sizy blood."*

We are sensible that the purgative effect may be produced by various articles; yet none seem to answer so well in this complaint as calomel, which appears to have a specific action on the liver. This notion, indeed, has often been hinted at by different authors. "But, whether from a fresh accumulation of bile or some other circumstance, it may happen that the fever is kept up;

* Swan's Sydenham.

and in this case there is commonly a sense of weight and uneasiness about the hypochondria, which seems to indicate that the redundant bile is in the gall bladder or ducts of the liver. In this case, a repetition of evacuants is necessary, and calomel will be found to answer remarkably well as a purgative; its stimulus being so extensive as to loosen and bring away bile, when the saline purgatives had failed of having that effect. I have known these to pass through the intestines without relieving the uneasy sensation about the stomach, as calomel is found to do; and it will be found more effectual for this purpose, if given alone in a dose of from five to ten grains, and followed some hours afterwards by some other purgative."†

At the same time that I so highly recommend calomel as a purgative, I would, however, caution the young practitioner against the indiscriminate use of that or any other cathartic. I would, moreover, remark, that calomel has not only been ad-

† Dr. Blane's Observations on the Diseases of Seamen, page 421.

vantageously employed as a purgative, but that I have known it to settle the stomach, ease pain, and lessen the febrile heat, without producing any particular purgative effect. This fact agrees with the following case recorded by Dr. Wright: " In 1785, a gentleman at Hampden estate, in Jamaica, was seized with a bilious remittent, attended with constant retching and vomiting of bile. I was called to his assistance on the fourth day of his disorder; his skin was then a deep yellow colour, and his urine tinged linen cloth as in jaundice: the whole of his symptoms indicated extreme danger. My first object was to procure stools by means of stimulating injections, and small doses of the compound powder of jalap; but as the vomiting continued, and the fever remained high, I determined to give him two grains of calomel every two hours. On the following day he was better; but the use of the calomel was continued till the evening, at which time his stomach was settled. He had two copious evacuations by stool; the fever was greatly abated, and there was a gentle moisture on the skin, which I encouraged

by small doses of antimonial wine, and watery tepid drinks. After this he recovered daily, but the yellowness of the skin continued some weeks before it completely wore off."*

When the state of the bowels would admit, I have sometimes combined small doses of the pulv. antimon. with calomel, and repeated them every three or four hours, with advantage.

From the nature of the symptoms, we might have reasonably expected that blood-letting would have been employed with success; especially, as the pulse, in most instances, was full, hard, and frequent; and the blood (where venesection had been performed) exhibited a highly inflammatory appearance; the crassamentum being covered with an exceedingly viscid yellow gluten, and the serum of a deep yellow tinge. It has, however, very rarely happened, that the patients have been much relieved by the evacuation, although carried to a considerable extent; (in some cases they were evidently worse) particularly in those cases

where acute pain of the side, and violent pain of the face and head, appeared to demand the taking away a large quantity. The same disappointment, in similar instances, has been noticed by the most respectable authors, where the like symptoms have occurred in epidemic diseases.

“ The ardent heat of the surface, the oppressed hard pulse, the pain of the side, the oppression at the præcordia, the head-ache, and the throbbing of the temples, seemed strongly to indicate the use of bleeding. Very little experience, however, was sufficient to shew the impropriety of it; and instructed by repeated examples of its hurtful effects, I very early laid aside all thoughts of lessening the inflammatory state by means of it. Although the blood, drawn in the cases wherein this remedy was employed, was remarkably florid, and always threw up an inflammatory crust of greater or less thickness; and although the pain seemed to undergo a temporary mitigation, yet the consequence, at the expiration of a few hours, was always fatal. I was the more surprised at this, even in men re-

markably robust, florid, and generally in the vigor of life.”*

“ The violent pain in the head, and the tendency there was to a pain in the side, together with the resemblance of the blood to that of pleuritics, soon shewed that this fever was accompanied with considerable inflammation, notwithstanding which, it would not admit of such large evacuations as are proper in a pleurisy ; for after the first or second bleeding, the blood entirely lost its sily surface, and repeated venesection did not at all relieve, unless the disorder, perhaps changed to a true pleurisy.”†

With respect to the use of emetics in this fever, I do not think they are of much service, unless where the stomach is loaded with bile ; as they evidently increase the irritable condition of the hepatic system, and divert the bile from the intestines.

Blisters, when indicated by topical affections, prove eminently serviceable, more especially in the pleuritic form.

* Dr. Chisholme.

† Swan’s Sydenham.

From the very irritable state of the *primæ viæ*, the cinchona is scarcely ever admissible; and even when given under the most favourable circumstances, has invariably disagreed with the patient.* This has also been the case with a decoction of the willow bark, which in remittents of former years, I had found extremely serviceable. In some instances, however, I have found a decoction of the *Angustura* bark useful, where great debility was induced by the long continuance of the diarrhæa.

Wine, as well as the cinchona, in general, very much disagrees with the stomach and bowels, particularly red port; but when extreme debility indicates the necessity of its exhibition, sherry seems best adapted.

I have tried the alkalies, and the muriatic acid, as recommended by Dr. Mitchell, and Dr. Reich,

* This coincides with what Dr. Pearson says respecting the bark, that “under every form and combination this drug has invariably disagreed, until the fever has been reduced by other remedies to a true tertian; or until it has fairly spent itself, and nothing but debility, and its concomitant, nocturnal sweats, remained.”

but I cannot say, upon the whole, with any particular benefit.

After the bowels are properly cleared, I find nothing answer so well, in general, as a saline cordial mixture, with a little opium. The nourishment usually allowed to the patient during the continuance of the febrile symptoms, consists of beef tea, arrow-root, tapioca; and barley water for common drink. If on the attack of the disorder, the evacuations from the stomach and bowels are excessive, attended with violent pain, and cramp in the lower extremities, an opiate is given immediately. If the discharge from the bowels be moderate, it is kept up for a while by giving a few grains of calomel and a solution of any neutral salt, every three or four hours. If the bile be obstructed in its passage through the intestines, and thrown back into the stomach, occasioning much nausea and vomiting, the same method is pursued till the bowels are sufficiently moved; after which, if the vomiting continue, the effervescing draughts are administered.

Since the preceding account was published, although the disorder has not prevailed to such an extent; yet, in several cases I have observed the intestinal canal has been more permanently affected, than at any former period during the prevalence of the disease; assuming in several instances, the appearance of slow peritoneal inflammation.

There was a constant pain in the bowels, with considerable distension all over the abdomen, and painful to the pressure of the hand; accompanied with the usual febrile symptoms, and increased biliary secretion at the beginning. It has sometimes happened that in the course of two or three weeks, notwithstanding the tongue became clean as in health, the febrile heat subsided, the pulse slower, and an abatement of the biliary secretion; yet the pain and distension of the bowels continued, and at the end of four or five months, the disorder has proved fatal. The progress towards such a termination, was manifested by a gradual diminution of muscular strength, wasting of the body, hectic fever, and increasing enlargement of the abdomen, with more or less of pain.

CHOLERA MORBUS.

Although the cholera morbus, and synochus biliosa, are distinctly arranged in the annexed list of diseases; yet I am very much inclined to believe that the former only differed from the latter, merely as it respected its violent manner of attack, and short duration, and not from any essential difference in the nature of the morbid action, nor remote cause. Much attention to the subject from long experience, has induced me to form this opinion; having frequently observed their coexistence at the same season, when prevailing epidemically; and also from the circumstance of the febrile symptoms which are peculiar to the synochus biliosa, often continuing after the violent attack of cholera has subsided. When the disorder commences with cholera, the secretion of bile is rapid, and copious, producing bilious vomiting, and diarrhæa: the complaint sometimes terminating in the course of a few days, and thus

a cure is spontaneously effected. But, on the contrary, if the biliary secretion is less rapid, or the vitiated bile retarded in its passage through the alimentary canal, it then acts as a foreign stimulus on the intestines; obviously producing morbid irritation, which is communicated to the whole system.

I do not mean however to infer from what has been remarked, that every sporadic instance of increased biliary secretion, always proceeds from the same cause; for it is well known, that different stimuli are capable of occasionally producing this effect, without inducing the disease in question, which is an epidemic.

This circumstance of difference has been particularly noticed by Sydenham, when treating of the cholera morbus. "The disorder (he observes) occasioned by a surfeit, which happens at any time of the year, though curable by the same method, is notwithstanding of a very different kind." The cholera is always the autumnal epidemic of this country, but the synochus does not supervene

to it regularly every season :* from which it would seem that the prevalence of synochus depends upon some peculiar state of the atmosphere ; acting in combination with the summer heat, producing a greater degree of derangement in the biliary secretion, than in the simple cholera. “ The nature of that peculiar state of the atmosphere favourable to the propagation of pestilential diseases, has hitherto eluded the researches of philosophers. The reality of its existence however is sufficiently established from the obvious effects to which it gives rise. Though ridiculed of late by some physicians, under the denomination of an occult quality, reason and observation still declare it to be a quality, resting for the certainty of its existence on evidence as substantial as that which supports the great Newtonian principle,—the gravitation of all terrestrial bodies.”

* Although the synochus biliosa has been more or less prevalent ever since the year 1797 ; yet, before that period I met with very few case of it here.

Sydenham observes, “*variæ sunt annorum constitutiones, quæ neque calori, neque frigori, non sicco humidove ortum suum debent, sed ab occultâ potiûs et inexplicabili quadam alteratione in ipsas terræ visceribus pendent, undë aër ejusmodi effluviis contaminatur, quæ humana corpora huic aut illi morbo addicunt determinantque.*”

Sometimes the attack of cholera is not only violent but alarming : the pain of the bowels is exquisite, attended with a rejection of every thing that is taken into the stomach ; and almost constant inclination to discharge the contents of the intestines.—Cramps in the legs—coldness of the extremities—quick and feeble pulse. Under such urgent appearances, an opiate should be immediately administered, joined with some aromatic ; and warmth applied to the extremities. If opium cannot be retained in a liquid form, it must be given in the form of pills. Beef-tea or chicken-broth should be drunk freely.

In ordinary cases where the evacuations are moderate, astringents are improper to be given, as they frequently aggravate the complaint by re-

taining the vitiated bile in the intestines, which ought to be discharged as long as the morbid secretion from the liver continues.

Dr. Beddoes has observed "that abstaining from intemperate indulgences at the close of summer, would soon occasion cholera to cease to be a general disorder of that season." This remark made me particularly attentive to those persons who were attacked with cholera during the last summer and autumn ; as it is well known to have been a very plentiful season for fruit, (especially plumbs) and from general observation, the disorder did not appear to prevail more than in years when fruit was less abundant. And also many persons were seized with the complaint, who had not indulged in the least degree in eating fruit. So far it must be acknowledged, that fruit and vegetables, frequently aid in producing the disease, but are by no means the principal cause. By referring the reader to the monthly list of diseases, it will be found that the disorder has prevailed at such a time when no such cause as fruit could be assigned for its prevailing.

There are some people, who are subject to periodical attacks of cholera, returning by intervals of a few weeks, producing for two or three days, constant sickness and vomiting, increased heat of the skin, and quickness of pulse—white tongue, and thirst. The bowels sometimes are torpid.

The cause appears to be general debility, connected with a sedentary mode of living, by which means the bile is suffered to accumulate for want of proper action in the gall bladder, and bile ducts; until by its quantity, and acrimony, it produces great irritation, not only in those parts to which it is immediately applied, but in the general system, until the accumulated bile is emulged from the ducts, when the complaint goes off.

Heaviness of the eyes, and great disposition to drowsiness, are commonly the precursors to the attack; and if a dose of a calomel be then given, it will either considerably lessen its violence, or altogether prevent it. I have evidently seen the disorder aggravated by the constant and long continued use of purgative medicines.

After exhibiting the calomel, I generally advise a weak solution of phosphorated natron, to be taken every three or four hours: the beneficial effects of which are very obvious in cooling, and allaying the general irritation.

Exercise, particularly on horseback—Tonics, and the Bath waters, are best calculated to afford relief, and prevent a recurrence of the complaint.

Another, and frequent cause of increased biliary secretion, may also be noticed here; and that is, the indiscriminate use of purgative medicines. Wherever we go, our eye is sure to meet with pompous advertisements respecting some famous Antibilious Pills, &c. These are swallowed in abundance, by every description of persons, under every form of disease, whether the complaint is bilious or not; by which means the hepatic system is rendered extremely irritable, and more bile flows into the alimentary canal than should naturally.

Then the appearance of bile, helps to confirm them in their opinion respecting the nature of the complaint; from which they are encouraged

to persevere in the same practice, with the view, as they are led to suppose, of carrying off the bile, until from the long continuance of such a course, the chylopoietic viscera, are weakened, and a general debility is induced ; the appetite is bad—the digestive power of the stomach impaired—acidity and flatulency prevail in the alimentary canal ; and at length such persons are apt to become hypochondriacal.

I have been consulted by persons in this situation, when their indisposition evidently appeared to proceed from an indiscriminate use of purgatives; for it is obvious that such a plan must prove very injurious. By hastening the expulsion of the hepatic bile, the process of chylicification will be deranged, as the completion of that process depends on the presence of bile in the intestinal canal, as hath already been observed.

I have known strong purgative medicines daily exhibited for six weeks, with a view to remove bilious obstruction, which in my opinion had no existence except in the mind of the practitioner: as at different times during the period, I examined

the alvine evacuations, which were neither more nor less tinged with bile, than they ought to be naturally. By degrees, the plan was abandoned, but it was some time before the patient recovered from the effects of such an injudicious, and unnecessary course.

In cases of this kind the Bath waters will prove highly serviceable in restoring the tone of the stomach, and bowels; and consequently a more healthy action of the liver.

TORPOR or PARALYSIS of the LIVER.

That such a state of the liver is often induced, observation and experience evinces, but the manner in which it is produced, particularly as explained by the late Dr. Darwin, does not appear satisfactory; as he supposed, "from the ingurgitation of spirituous liquors into the stomach and duodenum, the termination of the common bile-duct in that bowel becomes stimulated into unnatural action, and a greater quantity of bile is pro-

duced from all the secretory vessels of the liver by the association of their motions with those of their excretory ducts. But as all parts of the body, that have been affected with stronger stimuli for any length of time, become less susceptible of motion from their natural weaker stimuli, it follows that the motions of the secretory vessels are less, and in consequence the secretion of bile than is natural during the intervals of sobriety." If this ingurgitation of spirituous liquors has been daily continued in considerable quantity and is then suddenly intermitted, a languor or paralysis of the common bile-duct is induced, the bile is prevented from being poured into the intestines ; and as the bilious absorbents are stimulated into stronger action by its accumulation, and by its acrimony or viscosity which it acquires by delay, it is absorbed, and carried into the receptacle of the chyle, or otherwise the secretory vessels of the liver, by the above mentioned stimulus, invert their motions and regurgitate their contents into the blood."

Dr. Saunders, when mentioning the abuse of spirituous liquors, observes, " they may act yb first

altering the structure of the stomach, and duodenum, and afterwards by sympathy of contiguity affect the biliary ducts of the liver. In the dissection of those who have been intemperate dram-drinkers, the diseased structure may be traced from the stomach along the course of the ductus communis, and I have frequently seen these ducts so contracted, and thickened, that they could not transmit bile."

It does not then appear from dissection, that the alteration with respect to diseased structure when induced, originates in the bile-duct, but is communicated to it from the stomach and duodenum.

The consideration of the bile-duct being a mere membranous canal possessed of a very small share of sensibility, and not any sensible degree of muscular irritability, certainly lessens the probability that the ingurgitation of spirituous liquors produces a deleterious effect primarily on that duct.

It seems far more reasonable to infer, that the immoderate use of spirituous or fermented liquors, in the course of time, produces debility of all the

chylopoietic viscera; and that the liver shares in the common effect of debility thus induced, which is ultimately communicated to the whole system.* The motions of all the abdominal viscera, are so connected by sensitive association, and so dependent on each other, for the due performance of the functions peculiar to each; that whatever materially deranges one organ, must necessarily more or less disturb the functions of the other. This will be readily acknowledged, particularly with regard to the liver, which as a secretory organ, derives all its blood destined for that purpose from the stomach, intestines, pancreas, and spleen.

Although the disorder is commonly produced by the cause already mentioned, yet it is sometimes induced by other debilitating powers, as long continued grief, anxiety of mind, &c. As the complaint is in general very gradually induced, so the symptoms will necessarily vary, according to the degree and extent of the morbid alteration.

* It is evident the nervous power is weakened by the shaking of the hand during the intervals of sobriety.

The diagnostics attendant on a torpid or debilitated state of the liver, are a depraved appetite, nausea, the prevalence of acidity and flatulency in the alimentary canal—torpid state of the bowels from a deficiency of bile—sallow complexion—and some cases are accompanied with a paralysis of the upper extremities, which particularly affects the hands, occasioning dropped wrists.

When the disorder proceeds to a fatal termination, it commonly ends in a schirrous of the liver, and ascitic dropsy.

METHOD OF CURE.

The first indication, is the judiciously withdrawing the accustomed stimulus, when the disease has proceeded from over stimulation by the immoderate use of spirituous or fermented liquors.

In general the sudden and entire abstraction of the usual quantity of stimuli, may be attended with extreme hazard to the patient; yet in some cases experience has proved that it has been done not only with impunity, but with evident advan-

tage. Such a result clearly shewed that the organization of the liver had not been affected to that degree as might have been expected, from the long continued practice of spirituous or vinous potation.

The next indication is to adopt those means that are best calculated to restore the tone of the chylopoietic viscera, such as bitter purgatives—tonics—Cheltenham or Bath waters.—In plethoric habits where there is reason to apprehend that the vessels of the liver are in a state of egorgement, a course of the Cheltenham waters, should precede the use of those of Bath.

“Bath waters (says Dr. Heberden) are in no cases more useful than remedying many of the injuries done to the constitution by drunkenness.” Exercise on horse-back, or in a carriage; and also gentle electrical shocks passed through the region of the liver, may be found useful.

SCHIRROUS of the LIVER.

A schirrous state of that organ is known to be a frequent consequence of hepatitis, particularly in warm climates, under both forms, acute and chronic, and it often succeeds to torpor of the liver.

Although hepatic inflammation often terminates in a schirrous of the liver, yet such a morbid condition is frequently induced, independent of any previous inflammatory action.

It is evident from observation, that the liver may be either generally or partially affected with schirrous. When it is preceded by active inflammation, most probable the affection is general throughout the parenchyma. But when it occurs in habits predisposed to glandular obstruction, or where it is the consequence of immoderate use of spirituous or vinous liquors, the effects are more partial, and circumscribed, and the disorder is slower in its progress.

There is no pathognomonic symptom, by which a schirrous state of the liver can be ascertained, except its sensible enlargement, when not accompanied with symptoms of inflammation; as other diagnostics, such as sickness, loss of appetite, jaundice, pain at the top of the shoulder, shortness of breath, &c.; are equivocal, because they accompany other affections of the liver also. Even its sensible enlargement must be considered very precarious, as it is known that in the advanced stage of the complaint, the liver often becomes diminished in bulk. This circumstance has been particularly noticed by Dr. Saunders, who observes, that “in the more early stages of schirrosity, the liver is not sensibly diminished in its bulk, nay, I am persuaded, that there is at this period, an increase both of bulk and weight, but that afterwards there is a gradual diminution of both, and this is nothing more than may be expected, when we consider the cause that occasions this disease.”

“These causes are of a nature which tend to produce a hurried secretion, and consequently an

imperfect state of the bile, viz. long residence in a warm climate, and the immoderate use of ardent spirits."

Sometimes the disorder assumes the appearance of Asthma. About thirteen years ago, I attended a man between forty and fifty years of age; who had for some time previously laboured under the complaint, which had been treated for Asthma, by a sensible physician, and a particular friend of mine, who had not considered local examination necessary; the circumstance that led me to discover the real nature of the disease. The liver was very much enlarged, and from pressing on the diaphragm, produced such a difficulty of breathing, as occasioned the mistake for an idiopathic affection of the lungs. The disorder yielded to a mercurial course.

The following remarks being the result of long experience, are selected from the late Dr. Heberden's Treatise on Diseases of the Liver. "But what I have conjectured to be this distemper (meaning inflammation) has rarely occurred to me in comparison of that which begins here, as

in other glandular parts, with a small schirrous which gradually spreads itself over the whole substance, and I imagine, just in the same manner as it happens in the breasts of women.

“ These schirri by fits inflame, whence a fever is raised, and the health in many respects discomposed. This fever re-treats on the abatement of the inflammation, and the patient is encouraged to hope for a recovery, but his hopes are usually vain, the intervals between these inflammations becoming shorter, the appetite, flesh and strength decreasing with a little cough and hiccup, which sometimes without and often with, a dropsy, bring on death: towards which the progress in different patients is so unequal, as either to take up several years, or to be finished in a few months.

“ In the advanced state of these schirri the blood will gush out in great quantities from the nose, the gums, the stomach, the navel, and with the stools; which is probably to be attributed to the obstruction which it meets in the schirrous liver.

“ The presence of jaundice with a hectic fever will afford a very convincing proof of a diseased liver, but the absence of it will by no means shew that it is not diseased.

“ The mere chronical diseases of the liver which begin with small schirri, arise sometimes from the same ill habit of body which occasions schirri in other glandular parts, or from a blow: but the most common cause is an intemperate use of spirituous liquors, which specifically hurt the liver far more than they do the stomach, to which they are immediately applied, or than they do any other of the bowels.

The experience of mankind has been so unfortunate as to find out the specific poison for the liver, but has not yet found out a remedy.”

METHOD OF CURE.

A schirrous state of the liver as the consequence of inflammation, is more likely to be relieved by the use of mercury, than the slow and more gradual enlargement of it, arising from the other

causes already mentioned. If fever of the hectic kind should accompany the enlargement, the exhibition of mercury in that case would be improper, and only tend to aggravate the symptoms of the complaint. When the exhibition of mercury is inadmissible, palliatives must be had recourse to, and directed with a view to relieve urgent symptoms. The nitric acid has been very much recommended by some practitioners in this affection of the liver, as well as in chronic inflammation. Dr. Pemberton observes, that "he has seen the most decided advantage from the use of the Taraxacum in incipient schirrous of the liver."

BILIARY CALCULI.

Calculous concretions have been occasionally found in different parts of the human body, but most commonly they are met with in bladder of urine, and gall-bladder. It is those found in the latter receptacle, that form the subject of our present consideration.

The bile from stagnating in the gall-bladder is apt to become thick and tenacious, arising most probably from the absorption of its aqueous parts, hence it is often found formed into very hard masses. These concretions vary with regard to their figure, magnitude, colour, and hardness. Sometimes they are rough, and angular, at other times they are oval, or round, and their surface smooth. Their colour and hardness, seem principally to depend upon the different proportions of their component parts. Dr. Coe observes, that they sometimes appeared to him almost entirely composed of inspissated bile, with a small portion of earthy matter, at times they appeared compos-

ed of earthy particles with very little mixture of bile. Since the increase of chemical knowledge, their component parts have been more clearly ascertained. From the analysis of Dr. Saunders, it appears they are formed of an earthy and resinous matter, in combination with the mineral and volatile alkali.

Sometimes however these concretions appeared formed of mere earthly particles, as stated by Dr. Coe;* and I have had an opportunity of inspecting several that had passed from a person labouring under the symptoms of hepatitis.

Although these concretions have been generally found in the gall-bladder, and ducts; yet they are sometimes met with in the *pori biliarii*, and *parenchyma* of the liver. It seems very probable, that when biliary calculi are formed in the substance of the liver, that earthy particles form the nucleus of such concretions; as the bile so near the immediate seat of secretion must be so very dilute, that it is not at all likely it should sponta-

* This kind of concretion is found in the livers of animals.

neously concrete as it does in the gall-bladder. It therefore appears reasonable to suppose, that the bile is arrested in its passage through the *pori bilarii*, by some minute calcareous deposition, to which it gradually adheres, until a complete calculus is ultimately formed.

Biliary concretions are sometimes very small, at other times they are found of a very large size. The late Dr. Heberden mentions his having seen one in the bile duct as large as a small hen's egg. Dr. Saunders states having met with one nearly as large and of the figure of the gall-bladder itself, so as almost to fill up the whole cavity. I have seen one myself as large as a small walnut, which passed from a woman, who had been twice previously attacked with jaundice, and other symptoms of biliary obstruction. As it passed through the rectum, it occasioned great pain. Externally it was of a very dark green colour, but internally more inclined to a dark yellow appearance. It was softer than the one I before mentioned when treating on hepatitis, for that had evidently been formed in the parenchyma of the liver. As there was

a long interval between the ceasing of the primary symptoms, and the pain it produced when passing through the rectum, it is very probable it had acquired an accession to its original bulk, from its long stay in the alimentary canal. It appears that women are more subject to the complaint than men, which no doubt is owing to their sedentary mode of living.

It does not seem probable that much pain is produced whilst a calculus of a moderate size is lodged in the gall-bladder, or even in the bile ducts, until it arrives at that part where the common duct perforates the intestine. This opinion is also supported from different cases reported by authors of the first respectability, where biliary calculi have been met with in the gall-bladder, of persons who never had had any symptoms during their life time, that indicated the presence of such a complaint. It is mentioned by the late Dr. Heberden, that a gall-stone weighing two drachms was found in the gall-bladder of the late Lord B——, though he never complained of the jaun-

dice, nor any disorder which he could attribute to that cause.*

When however biliary calculi are very large, so as to distend the gall-bladder, from the pressure made on the liver, it must necessarily have its functions more or less disturbed, and if in the parenchyma, inflammation will most likely be excited.

A sense of weight, and some degree of pain in the region of the liver, sickness, and vomiting, and also a pain at the top of the shoulder, or right arm, are mentioned by authors as the diagnostics attendant on stones in the gall-bladder.

Biaglivì has related a case of this kind. A man who was a patient of his, had a pain in the right arm, which was very violent and almost constant for about a year before his death. “*Hic per annos aliquot ante mortem facie nonnihil pallado-citrinus erat potissimum in albo oculorum. Anno*

* I very lately found ten stones in the gall-bladder of a gentleman, aged 76, who never had any symptom during his life time, that could cause the least suspicion of their existence.

circiter ante obitum, dolorem vehementissimum ac fere continuam nullis que cedentum remediis in brachio dextero quod elevere aut circumfere vix poterat passus est." When the body was opened, two large stones was found in the gall-bladder.

It must notwithstanding be confessed, that while biliary concretions remain in the gall-bladder, it will be very difficult to ascertain the real nature of the complaint; or to distinguish it from a morbid state of the liver itself; as the symptoms are in general very similar.

With respect to calculi when passing through the common duct into the duodenum, it may be remarked that the symptoms are not so obscure and uncertain, as when lodged in the gall-bladder.

I have sometimes observed the attack preceded by, or accompanied with a sense of coldness in the back, or lower extremities. The person is seized with a sudden violent pain (commonly at night) exactly where the common duct enters the intestine. The pain is so circumscribed that the patients' often say they can cover the extent of it with their finger, and sometimes shooting through.

to the back, extending up between the shoulders.* Persons thus attacked are not able to endure a recumbent posture, but are obliged to sit up with the body bent forward, which seems to afford some slight mitigation of their excruciating pain. In most cases the stomach is so extremely irritable, that every thing is immediately rejected. Sometimes bile is brought up, but not always, neither is vomiting a constant attendant. The intestines are invariably constipated; indeed the whole canal appears to share in the spasmodic state induced on the duodenum, by the irritating cause. If the bile should be completely obstructed in its passage into the intestine, the fæces will be of a light clay colour, and the skin and eyes become yel-

* Some time ago I attended a lady in one of those attacks, who complained all day of a coldness of her back, and at night was seized with violent pain in the usual part. I mention this case, because Dr. Pemberton observes "when these shiverings occur, that they come on after the pain has continued some time, and do not precede the pain as is the case with those shiverings which attend inflammation."

Sometimes the attack is not accompanied with any shivering.

low from a regurgitation of the bile into the system. Although the pain is more exquisite than in hepatitis, and is sometimes accompanied with great disturbance of the general system, as heat of the skin, quickness of pulse, thirst, white tongue, high coloured urine with a dark coloured lateritious sediment, yet in those cases inflammation very seldom occurs,—sometimes the pulse remains as quiet as in health, neither is there any general irritation excited.

It is obvious that the violence, and duration of the complaint, will depend upon the number, and magnitude of the concretions, and the resistance they meet with in their passage to the duodenum.

Sometimes the disorder continues several hours, and then a remission of pain ensues, either in consequence of the calculous entering the duodenum, or otherwise falling back into either of the ducts, or gall-bladder. The paroxysm often recurs again after an interval of a few days, or perhaps weeks; which indicates that the obstructing cause has not been removed: therefore notwithstanding the pain ceases, yet if at the same time it is evident

that the bile is still obstructed, another attack may in general soon be expected.

METHOD OF CURE.

In the treatment of symptoms arising from biliary concretions, three indications appear particularly necessary to be attended to.

First, to relieve the urgent symptoms, by endeavouring to relax the muscular fibres of the duodenum, in order that the dilatation of the ductus communis may be speedily effected. To answer this intention, the exhibition of opium is necessary, which must be repeated at proper intervals until ease is procured. In general it is best to administer it in a solid form, as the stomach is frequently so irritable during the attack, that every thing taken down is immediately rejected, especially fluids. I have sometimes combined calomel and opium, with advantage, and the former will remain on the stomach, and relieve the sickness, when the latter is rejected. Fomentations will be proper, and also the warm bath, if the patient is

able to bear it. As a soluble state of the bowels is necessary, laxatives must be given such as the stomach is likely to retain—as extr. coloc. comp. or pulv. scamon. comp. made into pills—or a solution of magnesia vitriolat. in aq. menth. pip.—and their operation to be assisted by injections. A large quantity of oil of almonds has been recommended by the late Dr. Darwin to be given during the fit.—I have given it in one case about four ounces at once, and I think with advantage, although it ought to be mentioned, that opium had been previously exhibited in a large dose. If the person should be of a muscular sanguine temperament, with any tendency to inflammation, (which perhaps is very seldom the case when a calculous occupies the situation we have been describing) bleeding will be adviseable, which will also assist the other means in producing muscular relaxation. In general however it is not necessary.

Diluting liquids should be freely drunk, as gruel, barley-water, chicken-broth, beef-tea. Sometimes the disorder is mistaken for gout, when

cordials, and spirituous liquors are given, which only tend to aggravate the complaint.

The second indication is to assist nature in the expulsion of the calculous by mechanical efforts. For this purpose emetics have been recommended by different practitioners; as the vomiting which so frequently accompanies the complaint is supposed to be an effort of nature to dislodge the obstructing cause. The propriety of their exhibition certainly deserves serious consideration, for although under some circumstances they may be of service, yet under others they may do much harm; as the action of vomiting will either assist in forcing the stone back into the gall-bladder, or forward into the duodenum; or if it is so completely fixed in the duct, as not to be moved either way, there may be some danger of the duct being ruptured. In most of the cases that I have met with, vomiting has been spontaneously excited to an excessive degree, and the patient's strength so much exhausted, that in such instances it has appeared to me improper to encourage that action any further. Electrical shocks passed through the

liver in the course of the common duct, may prove useful in promoting the passage of the stone. And also exercise on horseback or in a carriage, as we often find paroxysms of the complaint brought on by such means.

The last indication is to adopt those means that are most likely to act as a solvent on biliary concretions, or by overcoming the predisposition to their formation, prevent a recurrence of the disorder. On this part of the subject, practitioners have differed in their sentiments. The late Dr. Heberden supposed that no substance whatever was capable of acting as a solvent on biliary calculi; which opinion, was founded on the result of experiments made with substances on different calculi, when out of the body, particularly alkaline salts—lime water—soap lees. On the contrary, it appears from experiments related by Dr. Saunders, that some calculi are soluble in an alkali, in spirit of wine, and in oil of turpentine.—He observes, “It is altogether impracticable to make a direct application of those substances in the biliary ducts. But that alkaline salts, and es-

pecially the fossil alkali, may and do find their way thither, appears as demonstrable as any thing founded on reason and analogy can be. It has been shewn, that fossil alkali forms a constituent part of bile ; the blood then from whence the bile is secreted, contains either the elements of this salt or the salt itself in a formal state. We know with equal certainty, that fossil alkali taken into the stomach enters the circulating mass. Can we then suppose that the whole which thus enters the blood passes off by the kidneys: and that none of it finds its way to a secretion of which it naturally constitutes an essential part ? But the argument does not rest upon analogy only ; it is reduced to a question of fact. Among the various remedies employed against biliary concretions, there are none which have been nearly so successful as alkalies taken for some continuance, and we must either admit, that by impregnating the blood, they supply an additional quantity of that principle upon a defect of which the formation of biliary calculi depends, and thereby render the bile not only less disposed to concrete, but even capable

of softening and dissolving concretions already formed ; or, we must attribute their beneficial effects to some occult quantity that is equally repugnant to the knowledge we possess on the subject, and to the genuine spirit of true philosophy."

The late Dr. Darwin has mentioned, that æther quickly dissolved a bile-stone without additional heat, from which he proposed the following question, " Might not æther mixed with yolk of egg or with honey, be given advantageously in bilious concretions? " It is also mentioned by the same author, that he had in two instances seen from thirty to fifty bile-stones come away, by stool, about the size of large peas after having given six grains of calomel in the evening, and four ounces of oil of almonds, or olives, on the succeeding morning.

From what has been remarked it appears reasonable to suppose, that the alkaline principle of the bile is designed to prevent the concretion of that fluid, as well as to answer the purpose of correcting acidity in the intestinal canal. I therefore

agree in opinion with Dr. Saunders in recommending alkalies. The following is a common, and useful form.

Rx Natri exsiccāt.

Sapon. Venet. a a ʒij. contunde simul. ut. ft.

pil. xx iv. cap. ij. vel. iij. bis in die.

The soda water, supersaturated with natron, or the natron may be given in a bitter infusion, according to circumstances.

In full sanguine habits, Cheltenham waters may be of service; the water of the saline spring only should be drunk. Dr. Saunders recommends drinking it warm, which I think in such cases must be more advantageous, than to drink it cold.

The Bath waters also claim a particular notice here; as having been found frequently so very beneficial in biliary obstructions.

It should, however, be observed, that whenever there is an increase of heat of the skin, and quickness of the pulse during the paroxysm, (which I have often seen,) the waters should not be taken until the acute symptoms subside.

The following remarks are selected from Dr. Falconer's Treatise on the Bath Waters; whose long and extensive experience, has well qualified him for attaining a proper knowledge of their medicinal effects.

“ The jaundice, when arising from simple obstruction of the biliary ducts, from calculous concretions, has been long observed to be relieved by these waters. We cannot indeed conceive how the Bath waters, (or indeed any other remedy) can dissolve the biliary calculi when formed; but that the Bath waters, by obviating some of the symptoms that bile thrown into the circulation is apt to produce, may be of great service, experience fully shews.”

“ The stimulant qualities of the waters seem here to be highly useful, in counteracting that languor and inertia which almost constantly attend jaundice, and of course exciting the natural efforts to expel the cause of the disease. It is accordingly observed, that biliary calculi are often voided during a course of the Bath waters. Their

diuretic qualities are more over serviceable in carrying off the bile from the circulation."

But I think the greatest advantage is to be derived from constant, and regular exercise, particularly on horse-back; as nothing will tend more to prevent the bile from stagnating, and becoming inspissated; which it is apt to do in those persons who lead a studious, or sedentary life.

A MONTHLY LIST OF DISEASES,

From the 1st of June, 1806, to the 30th of June, 1807;

WITH

THE STATE OF THE WEATHER,
AND THERMOMETER.

List of Diseases for June, 1806.

Cholera	-	-	-	16
Bilious fever	-	-	-	26
Acute rheumatism	-	-	-	9
Stomach complaints	-	-	-	3
Chlorosis	-	-	-	2
Hooping cough	-	-	-	2
Scarlet fever	-	-	-	3
Inflammation of the lungs	-	-	-	4
Asthenia, or general debility	-	-	-	4
Anasarca as sequele of scarlet fever	-	-	-	3
Pulmonary consumption	-	-	-	2
Catarrh	-	-	-	6
Scrofula	-	-	-	2
Asthma	-	-	-	1
Inflammation of the brain	-	-	-	1
Hydrocephalus interpus, incipiens	-	-	-	1
Chicken pox	-	-	-	2
Erysipelas	-	-	-	1
St. Vitus's dance	-	-	-	1
Small-pox	-	-	-	1
Cachexia	-	-	-	1

The beginning of this month was unusually hot, which accounts for the prevalence of the Synochus so early in the Summer, as the thermometer in the shade within rose one day as high as 78. The great variation also tended to produce rheumatism, and catarrh.

June	Weather.	Wind.	Ther.
1	Clear fine day - - -	West	
2	Clear and warm - - -	Ditto	
3	Ditto - - - -	Don	
4	Rained all day, wind high	S. West	
5	The morning very sultry the evening cold - -	W. & high	
6	Ditto ditto - - -	S. West	
7	Clear, warm, day - - -	West	
8	Ditto - - - -	South	78
9	Ditto - - - -	Ditto	
10	Day fine, not so warm -	N. West	
11	Not so warm - - -	North	
12	Ditto - - - -	Ditto	
13	Very warm - - -	East	
14	Ditto, but rendered agreea- ble by cool N. breezes, and gentle showers of rain	North	
15	Very warm - - -	Ditto	
16	Ditto - - - -	Ditto	
17	Rather cooler - - -	Ditto	
18	Warmer - - - -	N. East	
19	Ditto - - - -	Ditto	
20	Ditto - - - -	Ditto	
21	Not so warm - - -	Ditto	61
22	Gentle showers of rain -	Northerly	67
23	Fair, much cooler - -	North	62
24	Ditto, wind high - -	N. West	
25	Very cloudy - - -	North	
26	Rained all day - - -	East	
27	Rain and cold - - -	N. East	
28	Cloudy, but no rain -	Ditto	
29	Warm and dry - - -	West	
30	Much rain and cold -	Ditto	

List of Diseases for July, 1806.

Acute rheumatism	-	-	10
Chronic ditto	-	-	3
Cholera	-	-	19
Bilious fever	-	-	22
Angina	-	-	1
Scarlet fever	-	-	3
Anasarca	-	-	3
Pulmonary complaints	-	-	7
Nettle rash	-	-	1
Inflammation of the liver	-	-	1
Pulmonary consumption	-	-	4
Menorrhagia	-	-	1
Epilepsy	-	-	1
Slight febrile complaints	-	-	3
Gravel	-	-	1

From the great and sudden changes of the weather during this month, several cases of rheumatism occurred, which is not usual at this season of the year.

July	Weather.	Wind.	Ther.
1	Cloudy, and so cold that several people had fires and additional cloathing	West	
2	Not so cold - - -	N. West	
3	Warmer - - -	Ditto	
4	Ditto - - -	East	65
5	Fine day - - -		
6	Cloudy, much rain in the night - - -	North	67
7	Morning rain, evening dry	N. West	60
8	Much rain - - -	S. West	
9	Very warm, dry - - -	South	70
10	Ditto - - -	West	
11	Heavy showers of rain, wind high - - -	West	
12	Showery - - -	West	65
13	Frequent showers - - -	S. West	65
14	Ditto - - -	West	
15	Showery - - -	N. West	
16	Cooler, wind high - - -	West	
17	Several heavy showers of rain, and sultry - - -	West	
18	Showers of rain, hail, and thunder - - -	S. West	
19	Showery, very cold in the evening - - -	West	
20	Cloudy, and gentle showers of rain - - -	N. West	
21	Heavy showers of rain, with thunder - - -	West	
22	Day cloudy, evening rain	North	
23	Rainy - - -	Ditto	
24	Much rain - - -	East	
25	Heavy shower of rain - - -	North	
26	Clear and dry - - -	West	
27	Fair and warm - - -	Ditto	
28	Fair, has been some rain in the night - - -	South	
29	Fair - - -	West	
30	Warm and dry - - -	South	
31	Some rain in the night, day dry - - -	West	

List of Diseases for August, 1806.

Acute rheumatism		7
Chronic ditto	-	2
Cholera	-	24
Bilious fever	-	18
Angina	-	1
Scarlet fever	-	3
Ditto with cholera	-	2
Catarrh	-	5
Jaundice	-	1
Painter's colic	-	1
Pulmonary consumption	-	5
Suppression of urine	-	1
Inflammation of the lungs	-	1
Stomach complaint	-	2
Nettle rash	-	1
Slight febrile complaint	-	3
Asthma	-	1
Hooping cough	-	1
Ulcerated sore throat	-	3
Croup	-	1
Measles	-	1
Ague	-	1

Aug.	Weather.	Wind.	Ther.
1	Heavy showers of rain	West	68
2	Frequent showers -	Ditto	65
3	Cloudy, but no rain	Ditto	65
4	Dry - - -	N. West	67 $\frac{1}{2}$
5	Some rain - -	S. West	65
6	Gentle showers -	W.&N.W.	67
7	Fair - - -	West	67
8	Ditto - - -	South	71
9	Ditto - - -	West	71
10	Ditto - - -	Ditto	71 $\frac{1}{2}$
11	Ditto - - -	Ditto	
12	Ditto - - -	Ditto	71
13	Showers of rain -	N. West	65
14	Fair, wind high -	Ditto	65 to 71
15	Ditto - - -	Ditto	
16	Ditto - - -	West	67 to 71
17	Ditto - - -	Ditto	Ditto
18		Ditto	67
19	Fair all day, but a most violent thunder - storm came on at night -	East	74
20	Fair - - -	S.E.toS.W.	72
21	Much rain - - -	S. West	72
22	A little rain - -	Ditto	72
23	Gentle showers -	Ditto	72
24	Clear fine day -	Ditto	73
25	Fair - - -	Ditto	73
26	Much rain - - -	Do.&W.byN.	65
27	Fair, wind high -	West	67
28	Much rain - - -	Ditto	65
29	Thunder storm, with heavy rain - - -	Ditto	65
30	Cloudy and showery -	South	66

List of Diseases for September, 1806.

Cholera	-	-	-	14
Bilious fever	-	-	-	19
Scarlet fever	-	-	-	3
Peripneumony	-	-	-	3
Pleurisy	-	-	-	2
Acute rheumatism	-	-	-	4
Chronic ditto	-	-	-	4
Chicken pox	-	-	-	5
Hydrocephalus internus	-	-	-	2
Asthma	-	-	-	4
General debility	-	-	-	1
Erysipelas	-	-	-	1
Angina	-	-	-	1
Partial palsy of the face	-	-	-	3
Stomach complaints	-	-	-	4
Diarrhæa	-	-	-	1
Dropsy	-	-	-	1
Anasarca of the lungs	-	-	-	1
Gravel	-	-	-	1
Catarrh	-	-	-	2
Slight febrile camplaints	-	-	-	4

Sep.	Weather	Wind.	Ther.
1	Fair - - -	South	66
2	Ditto - - -	Ditto	66
3	Ditto - - -	Ditto	66
4	Much rain - - -	S. West	65
5	Lowering, but no rain - - -	Ditto	64
6	Clear fine day - - -	S.	63
7	Rain in the evening - - -	S. West	67
8	Fair, but cloudy - - -	Ditto	67 $\frac{1}{2}$
9	Much rain - - -	N. West	65
10	Heavy showers of rain - - -	Ditto	63
11	Showery - - -	Ditto	61
12	Cloudy - - -	North	62
13	Very lowering - - -	Ditto	59
14	Rain in the evening - - -	South	62
15	Fair, wind high - - -	North	61
16	Ditto - - -	N. West.	59
17	Lowering - - -	West	58
18	Rain in the evening - - -	Ditto	62
19	Cloudy - - -	S. West	62
20	Ditto - - -	Ditto	65
21	Clear fine day - - -	N. West	68
22	Great fog in the morning, with rain - - -	Ditto	68
23	Fair - - -	Ditto	63 $\frac{1}{2}$
24	Gentle showers - - -	North	68
25	Clear day - - -	N. West	68
26	Rain - - -	S. West	57 $\frac{1}{2}$
27	Clear fine day, fog in the morning - - -	West	64
28	Ditto ditto - - -	S. East	65
29	Much rain - - -	N. West	62
30	Clear fine day - - -	S. West	62

List of Diseases for October, 1806.

Acute rheumatism	-	-	7
Catarrh	-	-	1
Asthma	-	-	2
Bilious fever	-	-	21
Ditto with dysentery	-	-	2
Slight febrile complaints	-	-	4
Typhus	-	-	4
Pulmonary consumption	-	-	6
Croup	-	-	2
Gravel	-	-	1
Ulcerated sore throat	-	-	1
Pulmonary complaints	-	-	2
St. Vitus's dance	-	-	1
Cholera	-	-	13
Palsy	-	-	1
Vomiting of blood	-	-	2
Inflammations	-	-	2
Bilious obstruction	-	-	2
Dyspepsia	-	-	5
Angina	-	-	2
Dropsy	-	-	2
Menorrhagia	-	-	1

Oct.	Weather.	Wind.	Ther
1	Foggy morning, day clear	N. West	65 to 60
2	Rain - - - -	E. S. East	56 to 59 $\frac{1}{2}$
3	Much rain - - - -	South	61
4	Rain - - - -	N. West	62
5	Cloudy with small rain -	West	61 $\frac{1}{2}$
6	Clear fine day - -	Ditto	61
7	Ditto - - - -	S. E. & S.	57
8	Foggy - - - -	S. East	61 $\frac{1}{2}$
9	Foggy morning, day clear	N. East	62
10	Clear day - - - -	Ditto	61
11	Ditto - - - -	N. East	61
12	Ditto - - - -	East	60
13	Foggy morning, day clear	Ditto	58
14	Rain in the night -	Ditto	60
15	Very cloudy - - -	South	60 $\frac{1}{2}$
16	Very dull, with a little rain	S. E. high	60 $\frac{1}{2}$
17	Fine day - - - -	S. East	56
18	Ditto - - - -	Ditto	55
19	Ditto - - - -	N. East	56
20	Clear day - - - -	S. East	63 $\frac{1}{2}$
21	Much rain - - - -	N. West	56 $\frac{1}{2}$
22	Rained the greatest part of the day - - - -	Ditto	
23	Dry - - - -	Ditto	53 $\frac{1}{2}$
24	Clear day, foggy morning	West	52
25	Fine day - - - -	S. West	52
26	Ditto - - - -	South	57 $\frac{1}{2}$
27	Ditto - - - -	Ditto	57 to 61
28	Gentle showers of rain -	Ditto	62
29	Dry day - - - -	Ditto	60
30	Fine day - - - -	East	60 $\frac{1}{4}$
31	Some rain - - - -	S. East	60

List of Diseases for November, 1806.

Bilious fever	9
Scarlet fever	3
Acute rheumatism	13
Pulmonary consumption	2
Menorrhagia	1
Bilious obstruction	2
Whooping cough	1
Asthma	4
Chicken pox	1
Peripneumony	1
Palsy	1
Diarrhæa	1
Cholera	2
Dropsy	2
Catarrh	10
Ulcerated sore throat	2
Angina	1
Dyspepsia	2
Chlorosis	1
Hip case	1
Stomach complaints	2
Pleurisy	1

The cholera and synochus have prevailed less in this than in any of the preceding months. Rheumatism and catarrh having taken the lead. Although the weather has been very mild, yet much rain fell in the course of the month.

Nov.	Weather.	Wind.	Ther.
1	Foggy morning, and rain	West	61
2	Rain	S. West	60
3	Dry	South	59
4	Foggy morning, day fine	N. W.	57
5	Dry	Ditto	56
6	Clear day	N. W.	53 $\frac{1}{2}$
7	Foggy	Ditto	53
8	Fair	S. West	55
9	Fine day	Ditto	56
10	Ditto	N. East	56
11	Dull	S. East	55
12	Very foggy all day	West	55
13	Dull	Ditto	57
14	Damp day	Ditto	59 $\frac{1}{2}$
15	Showery	N. West	57
16	A little rain	N. West	57
17	Ditto, wind high in the night	S. West	59 $\frac{1}{2}$
18	Much rain, ditto	S. West	58
19	Rain, wind high	S. West	58
20	Thunder storm in the night with heavy rain	West	58
21	Showers of rain and hail	Ditto	55
22	Rain	S. West	54
23	Ditto	Ditto	54
24	Ditto	Ditto	57
25	Much rain	Ditto	59
26	Rain	Ditto	59
27	Showery	Ditto	59
28	Rainy	West	61
29	Ditto	Ditto	61
30	Ditto	Ditto	61

List of Diseases for December, 1806.

Asthma	1
Palsy	2
Cholera	12
Bilious fever	16
Ditto, with nettle rash	1
Stomach complaints	3
Catarrh	18
Erysipelas	2
Acute rheumatism	11
Chronic ditto	1
Erythema	2
Phlegmasia dolens	1
General debility	2
Dropsy	1
Slight febrile complaints	3
Pulmonary consumption	3
Chlorosis	1
Angina	2
Ulcerated sore throat	2
Spitting of blood	1
Pleurisy	2
Menorrhagia	1
Colic	1
Inflammation	1
Diarrhæa	1

This month was remarkably wet, only five days without rain : at the same time it was uncommonly mild, as will be seen from the high state of the thermometer. Catarrh and rheumatism have been very prevalent.

Dec.	Weather.	Wind.	Ther.
1	Rain	West	56 $\frac{1}{2}$
2	Rain, wind high	Ditto	56 $\frac{1}{2}$
3	Ditto	Ditto	53
4	Ditto	N. East	53
5	Ditto	S. West	55
6	Ditto	Ditto	53
7	Much rain	South	54
8	Rain	N. West	52 $\frac{1}{2}$
9	Ditto	Ditto	53
10	Ditto	Ditto	53
11	Ditto	S. West	53 $\frac{1}{2}$
12	Ditto	Ditto	53 $\frac{1}{2}$
13	Rain, with lightning	Ditto	55
14	Ditto	N. West	55
15	Ditto	West	54
16	Ditto	S. West	57
17	Ditto	N. West	57
18	Ditto	S. West	58
19	Clear day	Ditto	56
20	Rain	S. East	56
21	Ditto	N. West	53
22	Ditto	S. West	56
23	Ditto	Ditto	56
24	Fair	Ditto	56
25	Ditto	Ditto	57
26	Ditto	Ditto	56
27	Ditto	South	57
28	Some rain	S. West	56
29	Rain	Ditto	56
30	Rain	N. West	55
31	Rain	East	54

List of Diseases for January, 1807.

Acute rheumatism	.	.	17
Chronic ditto	.	.	8
Febrile catarrh, or influenza	.	.	24
Cholera	.	.	12
Menorrhagia	.	.	3
Scarlet fever	.	.	3
Erythema	.	.	1
Pulmonary consumption	.	.	4
Bilious fever	.	.	8
Diarrhæa	.	.	3
Chlorosis	.	.	1
Dropsy	.	.	1
Asthma	.	.	2
Slight febrile complaints	.	.	2
Pleurisy	.	.	2
Measles	.	.	1
Palsy	.	.	2
Angina	.	.	1

Catarrh and rheumatism have increased in prevalence this month, which has been much colder than the preceding; attended with great variations of the weather, and thermometer.

Jan.	Weather.	Wind.	Ther.
1	White frost . . .	N. East	50
2	Frost . . .	East	48
3	Foggy . . .	N. West	43 $\frac{1}{4}$
4	Foggy . . .	N. East	43
5	Frost . . .	Ditto	43
6	Ditto, with fog . . .	S. West	48
7	Ditto . . .		41
8	Some rain . . .	S. East	44
9	Ditto . . .	East	47 $\frac{1}{2}$
10	Ditto . . .	N. West	
11	Sharp frost and snow . . .	West	40
15	Rain . . .	Ditto	40
16	Fine day . . .	Ditto	40
17	Ditto . . .	N. West	40
18	Ditto . . .	S. West	40
19	Rain . . .	Ditto	49
20	Ditto . . .	West	49
21	Rained all day . . .	N. West	46 $\frac{1}{2}$
22	Snow . . .	Ditto	47
23	Fair . . .	Ditto	46
24	Great fog . . .	Ditto	44
25	Fair . . .	Ditto	
26	Foggy . . .	Ditto	36
27	Ditto . . .	N. East	43
28	Ditto . . .	N. West	42 $\frac{1}{4}$
29	Ditto . . .	Ditto	44
30	Rain . . .	Ditto	46
31	Ditto . . .	S. West	

List of Diseases for February, 1807.

Bilious fever	-	-	-	5
General debility	-	-	-	1
Scarlet fever	-	-	-	12
Malignant scarlet fever	-	-	-	1
Catarrh	-	-	-	33
Pulmonary consumption	-	-	-	4
Erysipelas	-	-	-	1
Vertigo	-	-	-	1
Cholera	-	-	-	2
Asthma	-	-	-	4
Slight febrile complaint	-	-	-	1
Nervous complaint	-	-	-	1
Palsy	-	-	-	1
Pleurisy	-	-	-	1
Measles	-	-	-	8
Diarrhæa	-	-	-	1
Stomach complaints	-	-	-	3
Menorrhagia	-	-	-	1
Jaundice	-	-	-	1
Acute rheumatism	-	-	-	3

Catarrh has increased in prevalency this month, and also the measles.

Feb.	Weather.	Wind.	Ther.
1	Dry	N. West	36
2	Snow and rain	S. West	40
3	Ditto	West	40
4	Rain	N. West	40
5	Ditto	Ditto	43
6	Ditto	Ditto	42
7	Day fine	Ditto	43
8	Rain	West	45
9	Ditto	Ditto	52
10	Rain	N. West	53
11	Rain	Ditto	53
12	Fair	West	54
13	Ditto	Ditto	50
14	Ditto	South	52
15	Ditto	Ditto	50
16	Rain	Ditto	
17	Heavy fall of snow	South West	45
18	Severe frost	N. West	
19	Frost continues	N. West	
20	Much milder with rain	S. West	
21	Colder, dry	N. West	
22	Much rain, and milder	West	
23	Clear fine day	Ditto	
24	In the morning sharp frost, evening mild, with rain	South West	
25	Rain	West	
26	Colder, dry	North	
27	Frost	Ditto	
28			

List of Diseases for March, 1807.

Measles	-	-	-	61
Cholera	-	-	-	7
Menorrhagia	-	-	-	1
Asthma	-	-	-	3
Inflammation of the lungs	-	-	-	1
Catarrh	-	-	-	47
Acute rheumatism	-	-	-	10
Pulmonary consumption	-	-	-	1
Inflammation of the bladder	-	-	-	1
Pleurisy	-	-	-	2
Scarlet fever	-	-	-	3
Palsy	-	-	-	2
Dropsy	-	-	-	2
Mumps	-	-	-	2
Erysipelas	-	-	-	1
Hydrocephalus internus	-	-	-	2
Dyspepsia	-	-	-	2
Angina	-	-	-	1
Hooping cough	-	-	-	1
Spasms	-	-	-	1

The measles this month has been the most prevailing epidemic, and also the catarrh. From the similarity of the symptoms, I was at first led to think, that when there was no appearance of eruption, the disorder proceeded from the same cause which produced the measles. Experience soon however convinced me of the mistake, for a great number of children who had been attacked with catarrh, were afterwards seized with the measles. In general the disorder was mild, only requiring the exhibition of saline and antimonial medicines, with syr. papav. alb. to quiet the cough. Some few cases required bleeding, either general or local, and blistering.

Mar.	Weather.	Wind.	Ther.
1	A little rain . . .	N. East	
2	Dry . . .	Ditto	
3	Dull . . .	East	39
4	Snow . . .	N. East	38½
5	Dry . . .	North	30
6	Snow . . .	N. West	34
7	Dry . . .	Ditto	38
8	Ditto . . .	Ditto	34
9	Ditto . . .	Ditto	36
10	Snow . . .	N. East	
11	Dry . . .	Ditto	35
12	Ditto . . .	Ditto	35
13	Ditto . . .	Ditto	40
14	Ditto . . .	North	37
15	Dry . . .	N. West	36
16	Some snow and rain .	Ditto	36
17	Frost . . .	Ditto	36
18	Rain in the night .	S. West	46
19	Dry . . .	N. West	42
20	Ditto . . .	West	43
21	Morning foggy, day dry and pleasant . . .	S. East	48 P. M.
22	Ditto . . .	N.E.S.E. & S.	43
23	Fine dry day, wind high .	N. East	42
24	Dry, and windy . . .	East	37
25	Ditto . . .	Ditto	37
26	Foggy, with some rain .	Ditto	40
27	Dull, with some rain .	Ditto	43
28	Dry . . .	N. East	
29	Some hail . . .	Ditto	
30	A little snow . . .	Ditto	
31	Some rain . . .	S.W. & N.W.	

List of Diseases for April, 1807.

Measles	-	-	-	56
Spasmodic asthma	-	-	-	1
Dropsy	-	-	-	2
Catarrh	-	-	-	27
Angina	-	-	-	2
Cholera	-	-	-	4
Bilious fever	-	-	-	7
Acute rheumatism	-	m	-	7
Palsy	-	-	-	3
Biliary obstruction	-	-	-	3
Menorrhagia	-	-	-	2
Sequele of measles	-	-	-	4
Asthma	-	-	-	4
Pulmonary consumption	-	-	-	6
Hooping cough	-	-	-	1
Colic	-	-	-	1
Cough	-	-	-	1
Slight febrile complaints	-	-	-	2
Ulcerated sore throat	-	-	-	1
Croup	-	-	-	1
Gout	-	-	-	1
Pleurisy	-	-	-	2

Measles and cartarrh continue still prevalent. The croup is a disorder that very seldom occurs here. When I first saw the child it was too late for medicine to be of any use. If however at the beginning leeches are applied to the throat, and afterwards a blister: at the same time exhibiting an antimonial emetic, in general a cure will be effected.

Apl.	Weather.	Wind.	Ther.
1	Snow	N. West	
2	Frost in the night, clear dry day	North	
3	Fine day	Ditto	
4	Fine, not so cold	N. & S. W.	
5	Fine	S. West	
6	Ditto and mild	West	
7	Clear fine day and war	Ditto	
8	Ditto	Ditto	
9	Very warm, wind high	Ditto	
10	Rain	Ditto	
11	Warm, and dry	South	
12	Some rain	S. West	
13	Showery	S. West	
14	Clear fine day, but sharp	East	
15	Cold and stormy	N. East	
16	Very cold	Ditto	
17	Snow	North	36
18	Clear dry day, but cold	Ditto	
19	Ditto	N. West	
20	Clear day	North	33
21	Milder, with rain	S. East	
22	Very warm	South	
23	Ditto	Ditto	
24	Ditto	S. East	
25	Fine warm day	Ditto	
26	Very warm	South	
27	Fine, and very warm	Ditto	73 Out in the shade*
28	Some rain, not so warm	West	
29	Very warm	S. East	
30	Ditto	Ditto	

* Until this period the thermometer was always placed in the shade within, but never exposed to the sun, nor fire in the room.

List of Diseases for May, 1807.

Angina	-	-	-	3
Catarrh	-	-	-	6
Asthma	-	-	-	2
Nettle rash	-	-	-	1
Scrofula	-	-	-	1
Menorrhagia	-	-	-	2
Pleurisy	-	-	-	2
Measles	-	-	-	7
Gout	-	-	-	1
Erysipelas	-	-	-	2
Inflammation of the bladder	-	-	-	1
Acute rheumatism	-	-	-	7
Chronic ditto	-	-	-	2
Spitting of blood	-	-	-	1
Diarrhæa	-	-	-	1
Febrile complaints	-	-	-	2
Bilious fever	-	-	-	9
Cholera	-	-	-	4
Stomach complaints	-	-	-	2
Nervous complaints	-	-	-	2
Miliary eruption	-	-	-	1
Head-ach	-	-	-	1
Pulmonary complaint	-	-	-	1

May	Weather.	Wind.	Ther
1	Very warm	S. East	
2	Very warm in the morning, thunder in the evening, afterwards much cooler	Ditto	
3	Thunder in the night .	Ditto	
4	Cooler	South	
5	Showery	S. East	
6	Ditto	S. West	
7	Frequent showers . .	W.&N.W.	55 $\frac{1}{2}$
8	Ditto	S. West	
9	Ditto	South	60
10	Ditto	West	
11	Ditto	S. West	
12	Heavy storms of hail .	West	
13	Dry	S. West	59
14	Rained all day . . .	Ditto	59 $\frac{1}{2}$
15	Clear fine day . . .	Ditto	61
16	Ditto	S. W.	
17	Fine	N. West	
18	Dry	N. East	55
19	Ditto	East	59
20	Fine	East	65
22	Ditto	Ditto	65
23	Ditto	Ditto	65
24	Remarkably warm . .	S. East	72
25	Very dull and sultry .	S. West	
26	Heavy rain	East	
27	Dry, colder	N. West	62
28	Ditto	Ditto	60
29	Rain	N. East	56
30	Rain, and cold . . .	North	48
31	Dry	N. West	55

List of Diseases for June, 1807.

Stomach complaints	-	-	3
Inflammation	-	-	1
Dyspepsia	-	-	1
Spitting of blood	-	-	1
Catarrh	-	-	3
Bilious fever	-	-	2
Inflammation of the bowels	-	-	2
Acute rheumatism	-	-	7
Erysipelas	-	-	2
Nephritic complaint	-	-	1
Phlegmasia dolens	-	-	1
Pulmonary consumption	-	-	5
Measles	-	-	9
Dysentery	-	-	1
Chronic rheumatism	-	-	2
Inflammation of the bladder	-	-	2
Slight febrile complaint	-	-	1
Angina	-	-	1
Dropsy	-	-	1
Scarlet fever	-	-	1
Ulcerated sore throat	-	-	2
Cholera	-	-	3
Mesenteric inflammation	-	-	1
Pleurisy	-	-	1
Shingles	-	-	1
Nettle rash	-	-	1

June	Weather.	Wind.	Ther.
1	Dry	N. West	55
2	Fine clear day	S. West	58
3	Ditto	Ditto	62
4	Rainy		
5	Ditto		
6	Ditto		
7	Ditto	N. West	
8	Frequent showers	S. West	62
9	Ditto	Ditto	60
10	Ditto	Ditto	58
11	Dry	South	64
12	Ditto	West	62
13	Ditto	N. West	61
14	Clear fine day	S. West	62
15	Ditto	N. West	62
16	Ditto	N. & S. W.	64
17	A little rain in the morn- ing, the day fine	West N. West	64 62
18	Fair	Ditto	62
19	Ditto	Ditto	61
20	Ditto		
21	Ditto	N. E.	64
22	Fair	N. West	64
23	Ditto	N. West	68
24	Ditto	Ditto	65
25	Ditto	West	72
26	Cloudy	N. East	

As the preceding monthly accounts of diseases, were intended chiefly for the purpose of shewing the prevalency of epidemical, and contagious disorders, as connected with the different seasons of the year ; a variety of local, and cutaneous complaints have been omitted, that were not accompanied with more, or less of derangement of the system.

I am sorry that the state of the thermometer, is not so correct in some of the months, as it should have been, owing to the frequent hurry of business.

Year	Month	Day	Weather	Remarks
1850	Jan	1	Dry	
		2	Fine clear day	
		3	Ditto	
		4	Rain	
		5	Ditto	
		6	Ditto	
		7	Ditto	
		8	Frequent showers	
		9	Ditto	
		10	Ditto	
		11	Dry	
		12	Ditto	
		13	Ditto	
		14	Clear fine day	
		15	Ditto	
		16	Ditto	
		17	A little rain in the morning	
		18	Fine, the day fine	
		19	Fair	
		20	Ditto	
		21	Ditto	
		22	Fair	
		23	Ditto	
		24	Ditto	
		25	Ditto	
		26	Cloudy	

As the preceding monthly accounts of diseases were intended chiefly for the purpose of showing the prevalence of epidemic, and contagious disorders, as connected with the different seasons of the year; a variety of local, and cutaneous complaints have been omitted, that were not accompanied with more or less of derangement of the system.

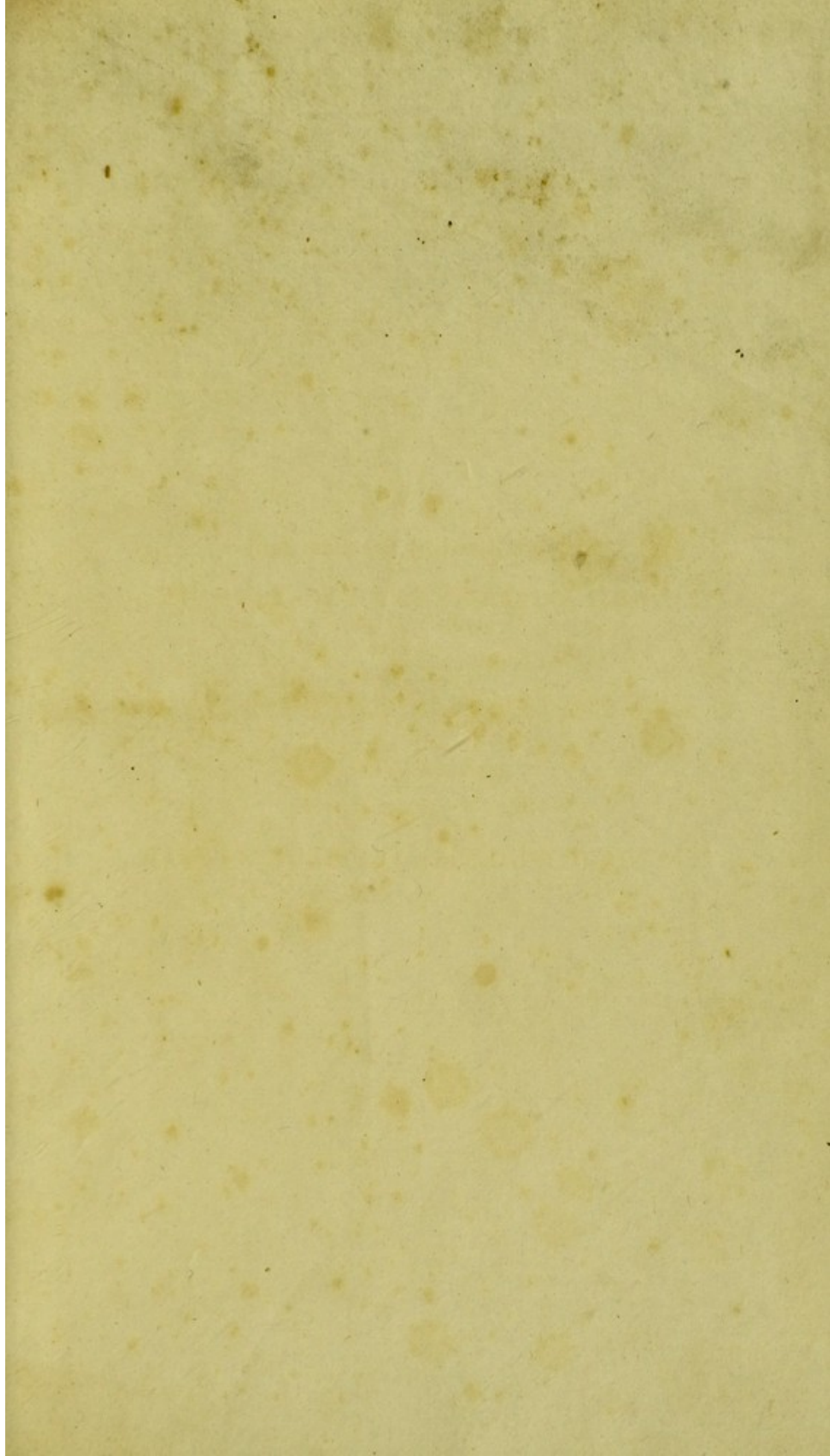
I am sorry that the state of the thermometer is not so correct in some of the months as it should have been, owing to the frequent hurry of business.

ERRATA.

Page

- 7, line 10, for calcalus read calculus.
- 12, line 8, read to be an.
- 13, line 16, for duodemon read duodenum.
- 31, line 6, for subsists read exists.
- 36, line 19, for parenchematic read parenchymatic.
- 63, line 20, for parenchema read parenchyma.
- 73, line 10, for order read disorder.
- 87, line 8, for nor read or.
- 89, line 3, of note, for case read cases.
- 90, line 5, for ipsas read ipsis.
- 91, line 22, read been prevalent at those times.
- 95, line 13, for evinces read evince.
- 107, line 3, for in bladder read in the bladder.
- 108, line 8, for appeared read appear.
- 111, line 11, for mortum read mortem---read Baglivi.
- 112, line 2, for continuam read continuum.

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