

**Treatise on puerperal peritonitis / by A.C. Baudelocque ... to which was awarded the prize by the Royal Society of Medicine of Bordeaux.
Translated from the French by G. S. Bedford.**

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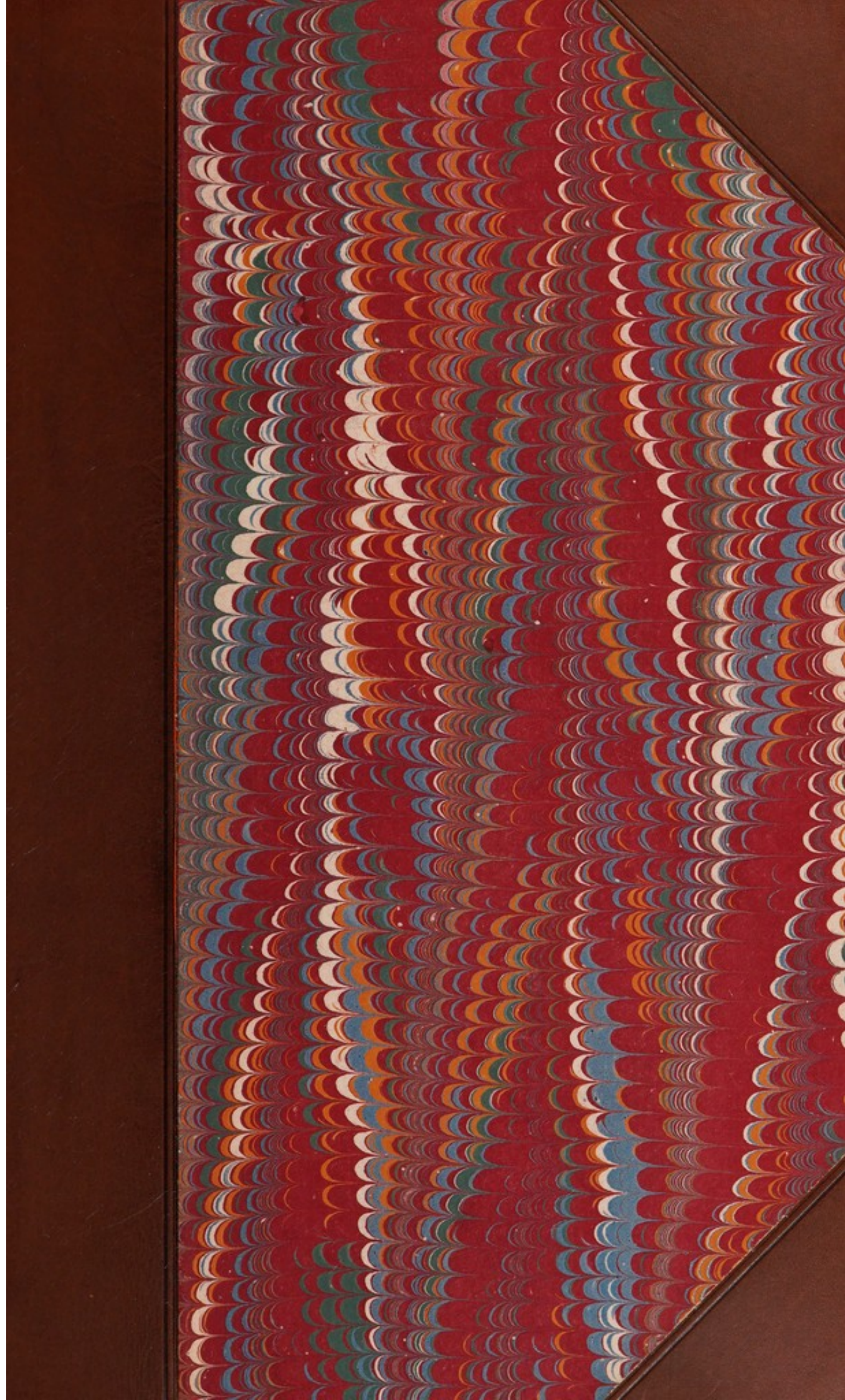
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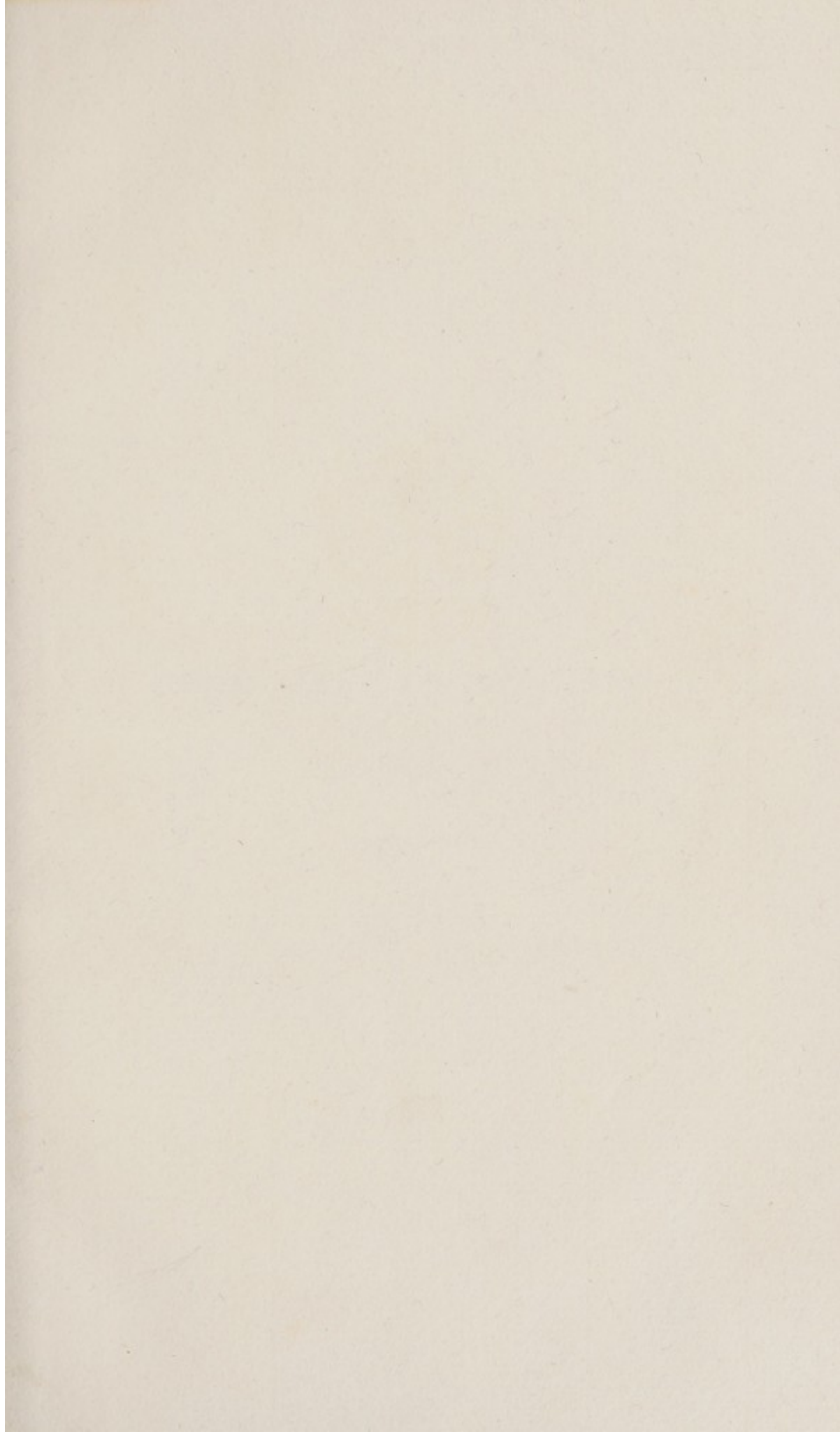
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TREATISE

ON

PERITONITIS.

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PUERPERAL PERITONITIS

BY DR. J. H. COOKE, M.D.

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NEW YORK:

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TREATISE

ON

PURIFICATION OF THE BLOOD

TREATISE
ON
PUERPERAL PERITONITIS,

BY
A. C. BAUDELOCQUE, M. D. &c. &c.

TO WHICH WAS
'AWARDED THE PRIZE
BY THE ROYAL SOCIETY OF MEDICINE OF BORDEAUX.

TRANSLATED FROM THE FRENCH
BY G. S. BEDFORD, M. D.
Lecturer on Obstetrics, &c.



Qui medicinæ se addixit tenetur ex scientiæ nostræ natura ut
addiscat id omne quod de universa arte aut veteres aut recon-
tiores certum et indubitatum docuerunt, deinde ut his demon-
stratis fideliter addat proprias observationes suas.

(BOERRHAAVE, *Prælectiones acad.*)

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1831.

TREATISE

PURPERAL PERITONITIS



1393

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New-York.

PREFACE.



THE character which this work has received from the distinguished individuals who have examined it, will, I apprehend, preclude the necessity of urging any thing more in its favor. For the practitioner, whose opportunities of observing *puerperal peritonitis* under its various forms have been limited, it will prove invaluable. For the student of medicine, it will be a safe and instructive work. The system adopted by M. Baudelocque is the inductive—from well-established premises he deduces correct conclusions; and if his example of abandoning hypothesis to such as are pleased with this sort of idle conjecture were more generally adopted, we should soon perceive a notable improvement in medicine. By attending properly to his views of Etiology, we may arrive at very important truths in reference to the internal arrangement of our hospitals. Though on this subject he has confined his remarks to *puerperal peritonitis*, yet it is very evident that we may modify, and, in many cases, prevent the violent character of contagious diseases, by adhering to the rules stated in this interesting chapter.

His remarks with regard to the *complications* which sometimes accompany this disease are well worthy of attention. According to our author, pleurisy is the most common of all the complications—it is very dangerous, and difficult to recognize.

He denies altogether the opinion of certain authors, who contend that, under ordinary circumstances, the inflammation commences in the uterus, and is afterwards propagated to the peritoneum. He considers the disease as depending on an alteration of the fluids, and especially of the blood.

As regards the *prognosis*, our author is of opinion that the state of the pulse will furnish the most infallible test. He remarks that the diminution of the pulse and its development will alone suffice to found hopes of recovery, even when there is no amendment in any of the other symptoms of the disease.

In no part of the work has he exhibited evidences of more profound research than in his observations on the treatment. He makes a judicious distinction of peritonitis into sporadic and epidemic. In the former, blood-letting appears to him the most efficient remedy we can prescribe—it will prove the more efficacious in proportion as it is employed soon after the attack of the disease. I do not think there can be any danger in following his directions with regard to the quantity of blood to be abstracted. The state of the pulse and abdomen, he considers, as the only proper indication for the use of the lancet. With him the first bleeding is always experimental. He makes it suffi-

ciently abundant to obtain an amelioration, and not so copious as to prove injurious should he be deceived as regards the propriety of its use.

The advantages of mercury in this disease have been fully demonstrated. The honor of introducing it into the treatment of puerperal peritonitis belongs to Dr. VANDENZANDE. He has employed calomel in combination with henbane and opium internally with entire success. It is often advantageously replaced by mercurial frictions.

All that I can say in reference to the translation is, that I have endeavored to give a faithful transcript of the author's views. To such as have reflected on the subject it must be very evident that there is but one duty assigned to the translator, namely, to give a true and naked exposition of his author's sentiments.

In presenting this work to my countrymen in their language, I have been actuated by a desire to prove useful, and with this consideration I commit it to the profession, relying upon its kind indulgence for any deficiencies.

G. S. BEDFORD, M. D.

is not so
easily abundant to obtain an inscription, and not so
easily to prove inscriptions should be the object of
regard the property of the work.

The advantage of having in this case been
fully demonstrated. The object of publishing it into
the treatment of practical physicians belongs to the
Vestibular. The book is placed in a double
action with the hand and other interests with entire
success. It is often recommended to be read by
capitulations.

All that I can say in reference to the translation is
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to the profession, not only upon its high importance
for my deliberations.

E. REDFORD M. D.

TO
M. DENEUX,
Accoucheur to S. A. R. Madame
DUCHESS OF BERRI, &c. &c.

I DEDICATE this work to the generous relative, who from my first entrance on the career of medicine has manifested towards me the affection of a father ; to the learned professor, to whom I owe a great part of my instruction ; to the skillful practitioner who, profoundly versed in the diseases of females, has so repeatedly opposed the ravages of puerperal peritonitis. May this public acknowledgment of my gratitude be agreeable to him ; may this work not appear unworthy of the pupil of his choice, of him who is pleased to call himself his adopted son.

A. BAUDELOCQUE.

I dedicate this work to the memory of those who
have labored for the cause of medicine and
humanity, and who have left behind them a
legacy of wisdom and goodness. I am proud to
be a part of their work, and I hope that my
efforts will be a small contribution to the
great work of the world. I am proud to be
a part of the work of the world, and I hope
that my efforts will be a small contribution
to the great work of the world. I am proud
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contribution to the great work of the world.

A. HUBBARD



INTRODUCTION.

To describe puerperal peritonitis, and determine, by clinical facts, those cases in which the different modes of treatment prescribed in this disease up to the present day, are applicable : Such is the question proposed by the Royal Society of Medicine of Bordeaux. Notwithstanding the numerous essays on puerperal peritonitis for the last fifty years, and the luminous exposition of this disease by men of distinguished merit, there yet remains something to do ; and it is well known to practitioners that, at the present day, there is no affection more rapidly fatal, and against which the resources of our art are more unsuccessfully directed. Puerperal peritonitis must be studied under a practical point of view. This fact has been properly appreciated by the Royal Society of Medicine of Bordeaux ; it is expressed in the question which it has submitted to the *Concours*. One of my con-disciples, Doctor Legouais, who, during a period of four years, has had occasion to observe puerperal peritonitis at the Maison d'Accouchement in Paris, wrote upon this subject, in 1820, as follows : " As numerous as are the works written upon this disease, there is, perhaps, not one which is not

deficient with regard to some of the points more or less important, either as regards the diagnostic, prognostic, or treatment. A description of puerperal peritonitis as complete and exact as could be given by an individual who had been in the habit of observing it for a long time with care and discernment, and who would know by his own experience what should be retained or rejected in the different authors who have treated of this subject—such a description, I repeat, would prove an useful contribution to science. It would fix the unsettled notions of a number of physicians, who have not had much opportunity of observing the disease themselves, and who, being obliged to have recourse to different authors, too frequently meet with the most embarrassing contradictions.”—(Inaug. Dissert. Introduction, p. 7.)

The particular direction of my studies, and the circumstances in which I have been placed, have afforded me frequent opportunities of witnessing puerperal peritonitis, and of meditating seriously upon the peculiarities of this disease. Imbued with the ideas of Bichât and Pinel, I saw, in 1821, at the *Maison d'Accouchement* of Paris, the practice confirm the theory. Peritoneal inflammation was, at this period, sporadic in the institution. The most brilliant success followed sanguineous evacuations combined with purgatives. I could scarcely credit all that had been written with regard to the dangerous nature of puerperal fever, and I doubted the traditions of the hospital on this point ;

I was of opinion, that it had been much exaggerated, and one year's experience confirmed me in the opinion, that puerperal peritonitis was not attended by greater danger than the inflammation of any other serous membrane. I was disposed to ascribe the ravages of the disease, at other periods, to an improper treatment.

I soon had occasion to acknowledge my error. The celebrated Chaussier had just died of apoplexy, and professor Deneux, appointed to succeed him, permitted me to accompany him in his visits to the hospital. What was my astonishment in finding the dead-house crowded, (there were seven bodies in it,) and in beholding the infirmaries occupied by dying women, (two died during the first visit!) A large number of women recently delivered were affected with peritonitis; nearly all of them perished in a few days, sometimes in eighteen or twenty-four hours. The treatment which, in the preceding year had proved so successful, was now without any effect; it even appeared to accelerate the fatal termination of the disease. The symptoms were nearly the same as I had previously remarked, except that the constipation was replaced by a diarrhœa, which sometimes preceded the inflammation of the peritoneum. It was not long before I became convinced that the nature of the inflammation was no longer the same, that there was something besides a simple phlegmasia. I do not think it possible to practice for any length of time among lying-in women, without being convinced that the primitive alteration

of the fluids is the cause of a great number of diseases. For the last thirty years practitioners have rejected this proposition ; but it will be shown in a subsequent chapter in what manner I have arrived at this conviction. It is evident that the conflicting opinions expressed by authors with regard to the nature and treatment of puerperal peritonitis are altogether owing to the different circumstances under which they have observed and treated the disease.

Until the death of Chaussier, I had been in the habit of visiting the Maison d'Accouchement, and the great mortality among the females formed a subject of frequent conversation with professor Deneux and myself. On several different occasions I had determined to publish my observations on puerperal peritonitis. But the opinion which I entertained with regard to the nature and causes of this disease differed so widely from the prevailing views of practitioners, that, fearing to oppose them, and, at the same time, conceiving the possibility of my having erred in the conclusions I had drawn, I deferred the task which I had proposed to myself. In fine, I was informed of the question proposed by the Royal Society of Bordeaux, and was unwilling to allow so favourable an occasion to pass without submitting my views to the examination of the honourable men, who would be perfectly unbiassed in their judgment. I was happy to have it in my power to subject them to this test, having determined not to publish them, if they did not receive the approbation of the Society.

I commenced the undertaking; but before reducing my opinions to writing, I imposed upon myself the obligation of reading all that had been written in reference to the subject which I was about to treat. The valuable library of professor Deneux furnished me with ample resources, and among the French, Latin, and English works, I had abundant opportunity of acquainting myself with the different views of authors. I soon arrived at the conviction, that puerperal peritonitis admitted of but little new research, and that, if we were in want of a good practical work on this subject, we must attribute it, not to any deficiency of materials, but to the prevailing medical doctrines which had rejected or consigned to oblivion the excellent remarks and judicious precepts of our predecessors. As my observations accord in many particulars with those which they have made, I am happy to have it in my power to sustain my opinions on their authority. I think that, on this account, they will be more valuable; and, at the same time, I will experience the pleasure of rendering to each author his full meed of justice. I have frequently cited verbatim the views of different writers in order that I might not alter the sense, nor represent them differently from what was intended. The reader will judge whether I have performed this part of my task with fidelity.

At first I had intended to commence this work with a history of the disease. But a history of this kind would be without advantage, if it did not embrace an

account of the influence which the different systems of medicine have successfully exerted on the causes, nature and treatment of *the fever of lying-in women, puerperal fever, inflammation of the uterus, puerperal peritonitis*, and the diseases generally of females *en couche*. I have not leisure, at this moment, to undertake a work which, executed as I conceive it should be, would demand considerable time and research. Perhaps it may occupy me at some future period.

Before entering on my subject, I hope I may be permitted to transcribe here the report made to the Royal Society of Bordeaux on my memoir. The expressions of this report are so commendatory that I cannot but desire to give them publicity. It must be recollected that such reports as are here alluded to are made without the name of the author being known, and consequently the minds of the judges are perfectly unaffected by any particular predilection.

This work is nearly in the same dress in which it was sent to Bordeaux, with the exception of some additional observations necessary to support certain principles, and a few explanations of parts which appeared somewhat obscure.

Extract from the Report made to the Society of Medicine of Bordeaux, on the Memoirs sent to the Concours, &c.

(Session, 24th of August, 1829.)

Of the five memoirs, which you have received, several bear evidences of distinguished talent, and two of them, in particular,

deserve an honorable place among the works which have most contributed to improve the practice of medicine.

The Memoir No. 4 has prefixed to it the following passage from Boerhaave : *Qui medicinæ se addixit tenetur ex scientiæ nostræ naturâ ut addiscat id omne quod de universa arte aut veteres aut recentiores certum et indubitatum docuerunt, deinde ut his demonstratis fideliter addat proprias observationes suas.*

No work can be more highly recommended for its lucidness of expression, profundity of erudition, and soundness of discussion. Besides the qualities which every literary composition should possess, this memoir is particularly valuable on other accounts. The author has elevated himself to the height of his subject ; he has enlightened us on those points which were obscure, and with regard to which practitioners have not yet arrived at any settled opinion ; and your committee hasten to tell you that he would have obtained the entire palm, if the Memoir No. 2 had not furnished us with what was wanting in the exposition of the grounds on which he has established his opinion and precepts.

The Etiology of puerperal peritonitis has received especial attention, and of all the other subjects has been the most developed in the Memoir No. 4. He has examined, with a severity of judgment worthy the highest eulogy, all that has been written respecting the causes and nature of this disease. We regret that we cannot follow him in the review which he has made. By abundant facts and reasoning, he has demonstrated the errors which have been accredited for so long a period, and his luminous and judicious observations have corroborated the truths scattered throughout the different treatises in puerperal peritonitis. But this article is too valuable for us to pass it by without alluding to the corollaries with which it terminates. (1)

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(1) See page 130.

Of all the causes capable of generating this phlegmasia, there is none more active, in the opinion of our author, than a vitiated state of the atmosphere. He does not, indeed, deny that cold climates and seasons predispose to the disease, and that sudden variations in the atmosphere may determine it; but he contends that the influence of both the one and the other has been much exaggerated; and he demonstrates that it is to a vitiated atmosphere that we are to attribute those peritoneal inflammations which sometimes are marked with such fatality in lying-in hospitals. Afterwards, when speaking of the prophylaxy of this phlegmasia, he recurs to the theory here presented, and employs it for the purpose of establishing certain rules for the hygiene of these institutions. From this theory he likewise deduces views of treatment exceedingly judicious in reference to the complications determined by this same cause.

The symptomatology of puerperal peritonitis, simple or complicated, from an external or internal cause, has not been treated with less talent than the etiology: he exposes faithfully the symptoms of this disease; he appreciates their proper value, and establishes the distinctive characters of the different affections with which it may be confounded. He makes particular mention of inflation; he contends that, if this phenomenon occurs so frequently in puerperal peritonitis, and so seldom accompanies that met with at any other period of life, it is owing to the facility with which the abdominal parietes become distended after parturition.

The author has mentioned with the same precision all the signs which announce a happy or fatal issue; but, with Delaroche, he is of opinion that the pulse will afford us the most certain data for our prognosis. He assures us, in contradiction to what the most part of writers have said on this subject,

and Chaussier among others, that constipation is a favorable symptom at the commencement of puerperal peritonitis, and that diarrhoea is almost always fatal, particularly when it is somewhat abundant, and in the advanced periods of the disease.

In a separate article, he gives us a fair insight into the pathological anatomy of puerperal peritonitis, and adds the improvements which have been made from the researches of Bichât to those of MM. Davy and Lassaigne.

Treatment. As it is from the distinction the author has made with regard to the causes of puerperal peritonitis that he has drawn his proof to demonstrate that the pathological condition of the parts is not always absolutely the same, it is also from this important distinction that he has derived particular rules for the treatment. Your committee, gentlemen, cannot too highly extol the scrupulous examination the author has made of the different modes of treatment, and the sagacity with which he has weighed their respective advantages and inconveniences.

The treatment of sporadic puerperal peritonitis, from external cause, is essentially antiphlogistic; local and general blood-letting is to be extensively employed. However, the author makes some judicious reflections on the use of leeches, which merit attention: he is of opinion that the necessity we are under of uncovering the females exposes them to transitions of temperature always dangerous. He objects for the same reason to the use of the vapor bath, which Chaussier was so much in the habit of employing. Baths, cataplasms, fomentations, though less dangerous, are nevertheless to be employed with great caution.

It is particularly in puerperal peritonitis from internal cause, or epidemic, that different therapeutic agents have been followed by the most incontestable success. In this case, we observe something besides the inflammation of the peritoneum; the nature of this cause imparts to the individual particular cha-

racters, or generates complications, which no longer permit us to attack the phlegmasia by an antiphlogistic method, nor as energetically and perseveringly as in the first case. The almost absolute insensibility of the abdomen, the smallness of the pulse, a general debility of the organism, indicate to the practitioner the propriety of employing sanguineous evacuations with great reserve.

The author has discussed at length the indications of purgatives, emetics, sudorifics, tonics, stimulants external and internal. He presents a very exact analysis of the principles which should direct the physician in their respective administration. As to emetics, the author shows that there are very few cases in which they will prove truly useful ; they can only be of service at the commencement of a slight and circumscribed peritonitis, when there exists an *embarras gastrique*, without any sign of irritation in the mucous membrane.

Drastics are always dangerous ; but laxatives, recommended by Chaussier, are useful in sporadic peritonitis, when constipation has persisted for a long time.

The mercurial preparations prove serviceable, by neutralizing the action of the infecting cause. The salivation which they determine appears to favor the critical efforts of nature.

The author is of opinion that it is unnecessary to solicit the appearance of the lochiæ by the application of leeches to the vulve, or the ascent of the milk by the suction of the mammæ. As both the one and the other are only effects of the inflammation of the peritoneum, when this diminishes, the lochiæ become re-established, and the milk is soon secreted. Moreover, in women possessing great nervous susceptibility, the suction of the mammæ will always be more or less dangerous:

We cannot but express our surprise that the author should not have insisted more particularly on two essential points con-

nected with the treatment of puerperal peritonitis : we allude to opiates given internally or employed locally, and refrigerants applied to the abdomen. This omission, or rather this negligence in not mentioning the cases requiring this medication, is certainly a fault, particularly in a man who has given us such repeated proofs of the most rigid precision.

The analysis of this memoir has been the more easy for us, as so far we have been engaged only in bestowing our just eulogies upon it. However, we must be permitted to remark that, in all that regards the treatment of peritonitis, the author is more intent on appreciating the practice of others than the results of his own experience. Although it would be difficult to surpass this excellent memoir, we nevertheless regret that he has not presented us with a greater number of clinical facts. They would have tended to fortify his opinions, certainly very judicious, with regard to the propriety of the different modes of treatment recommended in puerperal peritonitis.

Your committee propose, gentlemen, to divide the prize between the authors of Nos. 4 and 2 ; to present to the first a medal of the value of two hundred francs, and one of a hundred francs to the second.

Signed

DUPONT, DUPUY,
ANTHONY, BOURGES, and
BURGUET, *rapporteur*.

In the programme to the prizes is the following paragraph :

The Memoir No. 4 has for its epigraph these words, taken from Boerrhaave : Qui medicinæ, &c. This excellent work exhibits developments which we may regard as complete in reference to the etiology of puerperal peritonitis. The remaining parts of the subject are equally well exposed. We would have

been pleased if the author, in tracing the various circumstances which modify the treatment, had supported his arguments by a greater number of observations. Nevertheless, the committee pronounced this memoir superior to the others as well by the order which prevails in the description, as the erudition which the author has so advantageously exhibited by the judicious manner in which he has appreciated the different facts. We therefore, award a gold medal of the value of two hundred francs, and the title of corresponding member, to its author, Doctor Baudelocque, Agrégé to the Faculty of Medicine of Paris.

PUERPERAL PERITONITIS.



ETIOLOGY.

PUERPERAL PERITONITIS was subjected to the yoke of the prevailing medical doctrines, and confounded for a long time with other diseases, under the appellations of *fever of lying-in women*, *puerperal fever*, *miliary fever*, *milky deposits*, *inflammation of the intestines*, *uterus*, *bas-ventre*, &c.; but its true seat and anatomical characters have been well described only in the works of Hunter, Walter, Johnston, Forster, Cruikshank, Pinel, Bichât, Laennec, and others; for we find, in the exposition of its history and treatment, that extreme humoralism has given place to the most absurd solidism.

Fifty years ago, in France, the diseases of lying-in women were considered nothing more than disorders occasioned by the presence of milk in the humors. The remedies in vogue at that

period were emetics, purgatives, sudorifics, and diuretics of every kind, which received the name of anti-lactics. Blood-letting was rarely had recourse to. Since that time, physicians have considered these diseases as possessing an inflammatory character, analogous to those particular inflammations produced by external causes; therefore, the remedies employed have been sanguineous evacuations, the pretended anti-lactics having lost much of their credit.

We now ask whether the disease is less fatal? Has it fewer victims? Unfortunately *no*.—If science has at this day approximated nearer to the truth; if the progress it has made be due to the numerous dissections which have been practised; let us not hesitate to say, that the deductions, drawn from *post mortem* examinations, have contributed in no small degree to errors in the treatment of the disease. It is thus that the abuse of what is good leads to evil: *Corruptio optimi pessima*. What Denman wrote upon this subject, in 1795, is true at the present day: “We must admit,” says he, “that this sort of research (the opening of dead bodies) has not been productive of the practical advantages which we had a right to promise ourselves,

from the care and assiduity with which it has been prosecuted." (Introduct. to Prac. of Midwifery, t. 2, p. 536.)

When it was demonstrated that puerperal fever was an inflammation of the *peritoneum*, physicians were naturally led to have recourse to those remedies which were known to be most efficacious in inflammation, taking as a type inflammation from external causes. They have carried to an extreme the debilitating treatment—sanguineous evacuations—under the idea that an inflammation always required the same remedies, without any deference being paid to the cause by which it may have been produced. No regard was shown for what had been written upon this subject by practitioners of acknowledged merit, who had frequent opportunities of observing the disease. Their experience was undervalued, because they had not the same ideas which are now entertained with regard to the organic lesions observed on dissection; as if it were not possible to observe accurately the symptoms and progress of a disease without understanding its nature; appreciating exactly the influence of remedies employed, or without knowing the particular condition of the diseased organ.

What can be more judicious, more true, in many cases, than the following passage from the Dissertation on Puerperal Fever of Doctor Nolte, published in 1795? *Quando autem inflammatorii aliquid in hac febre observatur, fere nunquam inflammatio vera et pura, sed potius complicata est; quod bene distinguendum; nam, quod si inflammatio sit complicata in errorem incideres, et sæpe noxios produceres effectus, si methodo antiphlogistico uti velles* (Page 55.)

The ancients have written much upon the intricate nature of the causes of disease; they have given us for reality a multitude of hypotheses more or less ingenious; and several systems of therapeutics, founded upon a similar basis, have fallen into an oblivion richly merited. But we have committed a contrary excess, by neglecting entirely a consideration of the causes and particular circumstances under which diseases are generated and developed. To how many errors are we not exposed, in the treatment of diseases, when we neglect their Etiology! "It is nothing but the most blind empiricism, and an absolute ignorance of the true principles of medicine," Dr. Doublet justly remarks, "that

would induce us to adopt a particular remedy against a disease, without any consideration of the different causes susceptible of inducing and continuing the affection we are endeavoring to combat." (Treat. on Croup, Preliminary Discourse, p. 37.) It is a truth which has not escaped the observation of the most celebrated physicians, both ancient and modern, such, for example, as Hippocrates, Galen, Celsus, Baillou, Fernel, Morton, Sydenham, Hoffman, Van Swieten, Zimmerman, Selle, Stoll, &c. &c. These distinguished practitioners, when insisting upon the importance of the Etiology of diseases, did not certainly intend to speak of the proximate causes.

We are now beginning to feel the necessity of returning to the study of the causes of disease. We now understand the salutary influence which this consideration will exert over its treatment. This influence appears to me so very evident in the diseases of lying-in women, that I will be pardoned, I hope, for the details which I propose entering into upon this point.

The causes of puerperal peritonitis have been divided into predisposing and efficient. I will not confine myself to this division, which would lead to useless repetition; the most part of the

causes being at the same time both predisposing and efficient. I prefer enumerating all of them first, and afterwards, examining them separately, in order that we may appreciate the degree of influence they may have in the development of the disease.

Authors have noticed, as causes of puerperal peritonitis, the changes which pregnancy induces in the general organism; the regimen pursued by the female during this period; the different circumstances which precede or accompany labor; the use or excess, after delivery, of certain aliments; of exciting, alcoholic drinks; the suppression of the lochiæ, of the milk; the suction of the mammæ, constipation; retention of the urine, of the placenta in totality or in part, of coagulated blood, of the lochiæ; the moral affections; external violence, age, temperament, climate, the seasons; the temperature of the air, its dryness, humidity, or alteration.

I shall examine successively each of these causes.

I. THE CHANGES WHICH PREGNANCY EFFECTS IN THE ORGANISM.

According to Puzos, and the partisans of milky metastasis, as soon as the female has con-

ceived, a change takes place in her humors. There is discovered in the blood a portion of milk, which is carried to the uterus for the nourishment of the child. The excess, deviation, and sometimes the bad quality of this milk, is the source of nearly all the diseases that occur during pregnancy, and the period of confinement.

The change, indicated by Puzos, in the humors of the female who has conceived, is a fact which we cannot contest. *Ac sane absque singulari in physica et medicina perspicuitate intelligitur fluidorum copiam, constituentes partes et mixtionem, item corporis illiusque fonctionem omnem complexum aliter se habere in femina, dum ventrem gestat, aliterque quando vacua est.* (Boer. Nat. Med. Obst. p. 234.)

This change is especially apparent in the blood. If the necessary precautions be observed in bleeding a pregnant woman, even but a short time after conception, the clot will be covered with a whitish pellicle, more or less thick, which has been compared to the inflammatory coat. This pellicle, the more light, in general, as pregnancy is less advanced, is sometimes only perceived by the opaline color which it imparts to the blood. In a memoir, recently published,

Dr. Moulin mentions, as an infallible sign of conception, this opaline color, which has been spoken of more than sixty years since in works highly esteemed, particularly in those of Puzos, Doublet, and Alph. Le Roy.

It has been remarked that, during pregnancy, the blood contains a larger proportion of serum. This excess of serum may serve to explain the frequency of serous infiltrations. It cannot, it appears to me, be sustained at the present day, that, in all cases, these infiltrations of the inferior extremities are to be ascribed to the compression exerted by the uterus upon the lymphatic vessels. The opinion of Chaussier, who attributes them to the difficulty of respiration, to the diminution caused by this difficulty in the pulmonary perspiration, appears to me much more probable.

In many pregnant females, the vagina becomes the seat of a secretion more or less abounding in a milky white mucus, which is not noticed under ordinary circumstances.

If we are not permitted to doubt the existence of this change in the fluids, of this cachexy, we discard, at least, the explanation given of its nature by Puzos and others; the present improved state of physiology will not permit us to believe that

milk can be formed in the blood without the agency of a secretory organ. It is very evident that the mammæ are the organs by which the milk is secreted, and that these organs do not commence their proper function until after delivery. It would, indeed, be a feeble argument to oppose to this truth, the increase in volume of the breasts during pregnancy, particularly about the latter period, and the secretion of a whitish fluid, which possesses more or less the qualities of milk. These phenomena should only be considered, it appears to me, as preparatory to the function with which these organs are soon to be charged.

What is the nature of this change in the humors to which I have just alluded? Shall we say, with Doublet and Selle, that, if the milk which is found in the blood be not as perfectly elaborated as that which flows directly from the mammæ, it is at least a milky lymph, possessing the same qualities, and the same uses; or with Dr. Amard, that it is albumen? Experience does not demonstrate the truth of these assertions, which appear to be founded solely on an external appearance. Neither will I adopt the opinion of Sprengel, who gives the following explanation: *Penuria oxidatarum particularum seri lym-*

phatici abundantiae favet, quæ in membranis serosis colluviem præprimis producit. Cum enixa est foetus, contracto protinus utero, liberatur pectus, ingens oxygenis copia paratur quo serum lymphaticum abundans ita impregnatur, ut lacteum colorem albumen adipiscatur. (Instit. Med. t. 2, p. 332.) I think that, at the present day, we should content ourselves with establishing the fact, and abstain from every explanation which could possibly influence the treatment of puerperal diseases.

I now pass to another question, which has more immediate reference to our subject.

Can the change in the humors of which we have just been speaking, have any agency in the production of puerperal peritonitis? I think not; and in want of direct proof, I found my opinion upon the following considerations.

This new condition of the fluids is connected with the existence of pregnancy; it is met with in all women, in all places, and at all periods; puerperal peritonitis, on the contrary, is not observed, at least equally frequent and dangerous, in all seasons, and in all countries; it does not attack indiscriminately all women. Perhaps it may be objected, that if this disposition of the

humors did not exist, the causes which determine puerperal peritonitis would be inoperative; but then there should result from this something peculiar in the nature and progress of the disease; and we shall see, farther on, that there is nothing remarked in it which is not met with at other periods of life, and even among children and men. I will add, that it is perfectly natural to believe that a constant phenomenon, a phenomenon connected with the accomplishment of a function, should be altogether in favour of the execution of that function—in favour, consequently, of the mother and child. It would be gratuitously accusing nature, and it would exhibit ignorance of her conservative tendency, to believe that she should have associated with the accomplishment of one of her most important acts, a danger inherent even in the very essence of this act. At most, it seems to me we may admit that, from the change effected in the humors, there may result slight modifications in the diseases which accompany or follow pregnancy and delivery: as, for example, a more abundant effusion in inflammation of serous membranes, and more copious critical evacuations.

Another condition of the fluids, which is not

peculiar to the pregnant woman, very frequently accompanies gestation : I allude to sanguineous plethora. This plethora has been mentioned among the causes of peritonitis. We must not, however, attribute a very great influence to it ; for nature possesses so many means of causing it to cease, during and after labor, that it is rare that it occasions any accidents. We do not understand why it should favour the development of peritonitis, rather than that of any other inflammatory disease.

There is another species of morbid influence induced by pregnancy, mentioned by Hulme, and combated victoriously, it appears to me, by White : I refer to the pressure which the uterus, distended by the product of conception, exerts on the abdominal viscera. If this cause were real, would not the disease occur *before* rather than *after* labour ? “ Females,” says Ch. White, “ would be principally subject to it in their first confinement,—a period in which the abdominal muscles are less disposed to yield, and in which the pains of labor are most violent. But such is not the fact, as we may conclude from the examples which this doctor (Hulme) has cited, or from the particular cases which I have observed

myself; but we may advance that the contrary takes place." (Advice to Pregnant Women, &c. p. 383.)

In truth, the assertion of White, originally made by Fontaine and Col de Villars, has been contested, namely, that women with their first children are less liable than others to attacks of peritonitis. Thus, in a memoir lately published on the causes of puerperal peritonitis, my excellent friend and condisciple, professor Dugès, states that this disease is more frequent by one third in the first confinement, than in any of the following. It is not impossible that there might have been some error in the estimate made by M. Dugès. This error may, perhaps, depend upon the selection of a few facts out of a great number. Be it as it may, regarding this calculation as strictly just, it is not the less true that, during several epidemics, the disease has been much more fatal among those females who have had several children.

Hulme endeavors to support his opinion by the following considerations: "As soon as labor has commenced," says he, "the female experiences particular pains, which return at intervals, and occasion such repeated convulsive movements in the abdominal muscles and dia-

phragm, that they push the foetus into the pelvis, and procure its expulsion. By this painful and laborious action, the body becomes heated, a momentary fever is lighted up, the intestines and epiploon undergo considerable friction, and are in some sort thrown against the distended uterus, at each convulsive pain, until the foetus has descended into the pelvis."

I must remark, with White, that this description of labor is not perfectly exact. The principal agent in the expulsion of the foetus is certainly the contraction of the uterus, which is only aided by the action of the diaphragm and abdominal muscles; and the compression of the intestines and epiploon is much less than is imagined by Hulme. This compression cannot certainly be compared to that experienced by the inferior portion of the uterus and vagina, whilst the head of the child passes between the tuberosities of the ischium, where it frequently remains for several hours, subjected to the effort of the most violent pains, without producing the slightest inflammation. In fine, this pressure, of which Hulme speaks, is the same at all periods, in all places,—and it is observed in all women, in a greater or less degree. Peritonitis should be equally in-

variable, if this be the true cause of the disease.

Hulme, Hufeland, Osiander, Reil, and others, have attached much importance to the changes which pregnancy determines in the peritoneum—to its distension, and increase of surface; which cannot possibly occur without there being at the same time an increase of action and vitality. We know very well, that the more active the organic movements are in any particular part, the more this part will be subject to disease. If we find here a cause of peritonitis, its influence cannot be very considerable. I cannot perceive any thing but a predisposition to inflammation, greater perhaps than in any other organ; whence it results that the peritoneum would become inflamed, rather than the pleura, for example, or arachnoidea, when particular circumstances conspire to derange the ordinary march of nature. I will add that, in reason of the greater extent of the serous membrane, its inflammation, all things being equal, will be more severe than at any other period, and be accompanied by a more abundant exhalation of serum.

Pregnancy exerts over the general strength, respiration, circulation, and digestion, a marked influence which has not been sufficiently attended

to ; but there is nothing in this influence which has any special connection with the etiology of peritonitis, and we shall, therefore, not occupy ourselves with it at this moment.

Pregnant women sometimes experience certain inconveniences, which depend exclusively upon their particular condition, and which do not cease until after delivery. It has not been observed that these females are more frequently subjects of peritonitis, than those whose entire term of gestation has been tranquil and undisturbed ; and we have often been astonished at the promptitude with which health succeeds to their continual sufferings. But I have had occasion to remark, that there is often an inflammation of the peritoneum soon after confinement, when an actual or latent chronic affection has existed during pregnancy. The following is a remarkable example of this inflammation, which, under similar circumstances, ordinarily yields with facility to the administration of proper remedies.

The wife of one of my colleagues became pregnant for the second time, in the year 1824. She did not quit her bed, being obliged to remain there upon her right side, in consequence of a disease of the left femoral articulation

She was safely delivered at full term, after a labor of short duration. The two first days after delivery, all passed on well; the milk begun to flow towards the breasts, when she was suddenly seized, about nine o'clock in the evening, with a chill, which lasted a quarter of an hour, followed by perspiration. The hypogastric region was slightly painful on pressure. She exhibited evidences of delirium, at times gay, and then again possessing a melancholy character, which arrested more serious attention than the state of the abdomen. The next morning the delirium ceased, but the inflammation of the peritoneum had progressed. The hypogastrium was swollen, tender, and very painful on pressure, particularly towards the left side of the fundus of the uterus; pulse frequent, corded; thirst intense; slight cephalalgia; suppression of the lochiæ, and of the secretion of milk. Eight ounces of blood were abstracted from the arm; two spoonsful of castor oil, and a purgative injection administered; an emollient cataplasm to the abdomen; diluting drinks. The employment of these means was followed by some slight relief. In the evening the application of twenty-five leeches ameliorated

the condition of the abdomen, which was still more relieved on the following day by the additional application of twelve leeches. The lochiæ reappeared; the breasts were enlarged; there was no thirst, but still the fever continued. A rigid diet for several days, together with diluting drinks, had no effect in diminishing the frequency of the pulse; there was no appetite, notwithstanding the satisfactory condition of the tongue. Of the cause of this we were ignorant. The patient coughed three or four times during the twenty-four hours; the respiration was somewhat more frequent than in its natural state, but this seemed to us to be accounted for by the frequency in the circulation. However, having had frequent occasion to observe pleurisy, after delivery, accompanied by no stronger characteristics than were here exhibited, I prevailed on the husband to explore with care the state of the chest; this was done at several different times, by means of percussion and auscultation. He detected the existence of a slight pneumonia, occupying a portion of the inferior lobe of the right lung.

Professor Fouquier recognized with us the pneumonia, which we all three attributed to the fact of the patient's having remained for so long

a period on her right side. Three small bleedings from the arm, placing the patient on her back, and a little to the left, soon re-established her health.

The inflammation of the peritoneum, and the delirium, had suddenly manifested themselves without any apparent cause. My conviction is, that if the lung had not been already diseased, these accidents would not have occurred. This opinion is founded on the fact, that they immediately ceased on the removal of the cause which had determined them.

I have known several instances, among consumptive women, in which peritonitis occurred in precisely the same manner after delivery, and it soon yielded to small sanguineous evacuations; the pthisis, however, progressed with rapidity, and soon terminated fatally.

The 22d of April, 1825, I attended, during her first confinement, Madame G——, aged twenty years, of a lymphatic constitution, born and raised in Paris. The labor presented nothing particular, except that the right fore-arm, encircled by the umbilical cord, was flexed on the arm in such manner that the hand was expelled before the shoulder. The placenta came away spontaneously. The only inconvenience expe-

rienced during pregnancy was a slight cough, which became more frequent in the last month, but was not followed by any expectoration.

Two hours and a half after her delivery, she was seized with a violent chill, which continued one hour and a quarter, and was succeeded by great heat, colic, and considerable pain in the loins. The application of warm cloths to the abdomen soon relieved the colic. When I saw the patient, the face was highly colored; pulse strong and frequent; skin hot; the abdomen slightly tumid, and painful on pressure, particularly above the pubis, and towards the right iliac region. The fundus of the uterus was near the umbilicus, and supported with difficulty the slightest pressure. The pains in the abdomen were much increased by cough, and the exertion of blowing the nose. The lochial discharge was not arrested. There was thirst, and the tongue presented a whitish appearance, streaked with red. I took from the arm about sixteen ounces (*quatre palettes*) of blood; this was immediately followed by syncope, which produced a diminution in the pains. The drink prescribed consisted of an infusion of the flowers of linden, sweetened with the syrup of mallows; an absolute diet was imposed; the abdomen was

covered with a cataplasm of flaxseed, and an emollient injection administered. A small portion of fecal matter was discharged with the injection. The patient now slept for a short period. At nine in the evening the pulse was much less frequent, and thirst diminished; there was a general moisture; the abdomen less painful. The same drink was continued, and the cataplasm renewed. She rested quietly during the night, and the next morning there was very little fever; the state of the abdomen was satisfactory. The phenomena attendant on delivery were such as are usual; however, the cough continued; it soon assumed a convulsive character; the pulse, far from returning to its natural standard, became more frequent; copious sweats weakened the patient; she had no desire for nourishment of any kind, and every day continued to lose strength. At the end of two months the cough was followed by an abundant expectoration, which left no longer any doubt as to the nature of the disease. Emollient and calming remedies of every sort, the use of ass' milk, country residence, the application of revulsives, all were without effect in arresting the progress of a pthisis, to which Madame G*** fell a victim four months after the birth of her child.

I have observed several analogous cases in the *Maison d'Accouchement* at Paris. Whenever I discovered the cough to augment, and the fever to persist after the prompt disappearance of a peritoneal inflammation which had commenced with much severity, I always formed an unfavorable prognosis with regard to the state of the chest.

I witnessed something similar to this in a case of cerebral affection. Madame, the Countess ***, received a violent blow on the head, for which no remedy was employed. This spot remained the seat of an obtuse pain, which, at intervals, became considerably increased. She married three months afterwards, and soon became pregnant. Nothing occurred during her pregnancy, with the exception of a headach—for which she was twice bled, with some relief. She was safely delivered on the 14th of Sept. 1825, after a labor of ten hours. For seven hours every thing went on well, when the patient, laboring under strong excitement, was attacked by a chill, which continued for an hour and an half. The chill was followed by violent pains in the abdomen, which soon exhibited signs of tension and swelling; there was very acute sensibility on pressure; the cephalalgia was much augmented;

considerable heat and thirst; the pulse had acquired great frequency; the lochial discharge was scarcely apparent. A bleeding from the arm of twelve ounces, promptly dissipated the pains, tension and swelling of the abdomen, which now became soft and yielding. Diluting drinks, absolute diet, an emollient cataplasm, and a demi-lavement were ordered. The pulse became less frequent, and the cephalalgia much diminished. An abundant perspiration was now established, and continued till the ascent of the milk, which occurred about the third or fourth day after confinement; the breasts were considerably distended and painful. On the fifth day the body was covered with a red miliary eruption. A copious epistaxis caused a momentary cessation of the cephalalgia, without any amendment in the state of the pulse, which exceeded ninety-six beats in a minute. However, on the morning of the seventh day, the patient felt herself much better. She had been conversing for some time with her family physician, her husband and mother, when suddenly her reason fled; stupor succeeded, and she died in the space of three quarters of an hour. I just arrived in time to witness her last moments. Her body was not permitted to be opened.

Is it not reasonable to believe, that there had existed, for some considerable time, an alteration in the brain or its membranes—probably a chronic inflammation—and that the appearance of the peritonitis had some connection with the existence of this inflammation? The rapidity with which the symptoms of peritonitis were developed, without any very evident cause, and the readiness with which they yielded to blood-letting, without any amendment ensuing in the general condition of the individual, appear to demonstrate this connection. I consider the appearance of peritoneal inflammation, in a case similar to the above, as a phenomenon proper to detect, or at least to put us on our guard against the existence of a latent affection.

When a chronic disease is situated in the uterus, or its annexæ, it often happens that it becomes the point at which peritoneal inflammations commence of a much more serious nature than that recorded above. This is what we observe when there exist one or more fibrous tumors, an enlargement of the ovaria, broad ligaments, &c. These inflammations are sometimes developed during pregnancy. Among numerous observations of this kind made by professor Deneux, there is none more remarkable than that of a

lady, aged thirty years, who was recently married, and had on the side of her uterus, a tumor of the volume of an ordinary billiard ball. In her first pregnancy, this tumor, at three different periods, became the seat of pain, which extended with great violence to the peritoneum, accompanied by all the symptoms of an inflammation of this membrane. Blood-letting succeeded each time in removing these accidents. The lady was safely delivered at her full term; the phenomena attendant on confinement, presented nothing particular. Eight years from this period she became pregnant for the second time, and was likewise safely delivered; but on the fifth day after her accouchement she experienced considerable pain in the tumor, which had scarcely increased in size; the slightest motion aggravated the pain, which was relieved by the use of emollient cataplasms, absolute repose, and rigorous diet.

M. Amard mentions a case of peritonitis which proved fatal in a female, whose uterus was covered with fibrous tumors. (Intellectual Association, t. 1, p. 363.)

Hufeland, in an analogous case, supposes that a schirrous tumor, situated on the fundus of the uterus, and which was observed after death,

was the cause of the disease. (Archives of the Art of Midwifery, by Schweighæuser, t. 1. p. 39.)

I have observed, with professor Deneux, fibrous tumors in the uterus of a female who died of peritonitis. One of the tumors equalled in size the fist of an adult. It was in the *Maison d'Accouchement*, where the disease prevailed epidemically, and there was no proof that the tumors had been the point from which the inflammation of the peritoneum commenced: there appeared to be rather a coincidence as to time than any connection between the two affections. Perhaps it was the same in the cases mentioned by Hufeland and doctor Amard.

Madame Boivin has had occasion to remark a disease of the ovarium which, after having determined a premature delivery, was followed by a fatal peritonitis. A female, twenty-two years of age, was safely delivered at the eighth month; shortly afterwards, she experienced acute pain in the left side of the abdomen, with fever, tumefaction, and difficulty of passing her urine. An antiphlogistic treatment had procured her considerable relief, when, from imprudence, she caused an aggravation in the disease, which terminated her life nineteen days after delivery. On opening the body, a yellow serous effusion was noticed in

the abdomen. The left ovarium, the size of a double fist, occupied the hypogastric region ; so that, at first view, it was supposed to be the uterus, which had preserved a portion of its development. Its exterior surface, covered with numerous small vessels of a fine red color, presented a reddish white aspect. The inferior region of the ovarium adhered to the left lateral side of the pelvic excavation. In cutting into this ovarium, it was observed that it formed a cavity filled with a thick puriform matter, in the midst of which there was a quantity of red hairs. (Researches upon one of the causes of Abortion, &c. p. 21.)

When an acute disease occurs during pregnancy, it may happen that labor will come on, and thus prove a favorable crisis. Of this the following is a remarkable example, which I take from the Memoir of professor Dugès : A female, laboring under a pleuro-pneumonia, in the ninth month of gestation, had been twice bled from the arm without any benefit. Several applications of leeches and a blister had been equally unsuccessful in procuring relief. On the eighth day she was delivered, after a labor of three hours. From this moment the symptoms diminished, and entirely disappeared on the second day after delivery.

It much more frequently happens that the disease pursues its course, notwithstanding the accouchement; it then usually becomes complicated with peritonitis, which renders a fatal termination almost inevitable. *Si mulier utero gerens morbo aliquo minime cognato labore, in partus purgatura perit.* (Hippocrates de Naturâ Pueri, sec. 3, page 239, edente Fœsio.)

A female was delivered in the fifth month of her pregnancy, having been affected a month previously with a double pleuro-pneumonia. Her accouchement, far from relieving, only augmented the oppression; and, in spite of the most rational remedies, she died on the fifth day after her confinement. The patient had complained of slight pain in the abdomen; there was very little tumefaction. However, on examining the body, an effusion of thick serum, and false membranes in great quantity were observed. The lungs were almost entirely hepatized. (Dugès.)

“Whilst I am writing this,” says J. Clarke, “I have before me the case of a woman who had been attacked with scarlet fever, accompanied by ulcers in the throat, immediately before her delivery. The disease had not yet disappeared when she was delivered. The pulse became extremely frequent, and the abdomen was affected on the

second day, attended by the ordinary symptoms.” (Practical Essay relative to Pregnancy and Accouchement, &c. p. 101.)

It is easy to explain the connection between the existence of a disease of the uterus or its annexæ, and the subsequent development of peritonitis. Pregnancy and delivery impart to the diseases of these organs a greater degree of activity; the inflammation is propagated to the peritoneum by continuity of surface. This is not the case when the affection exists elsewhere, as for example, in the skin, chest, head, &c.; it then appears to me difficult to explain the connection in a satisfactory manner. It is enough to observe, that I have frequently been surprised at the facility with which the local symptoms of peritonitis disappear, without any apparent improvement in the general condition of the individual.

I terminate here all I have to say respecting pregnancy, and the changes it induces in the organism, considered as causes of puerperal peritonitis.

II. THE OPERATION OF LABOR.

Causes of peritonitis have been discovered in the variety of circumstances which sometimes precede or accompany labor. Certain practitioners, and among others, Delaroche, Doublet, Osiander, and Hufeland, are of opinion that puerperal peritonitis occurs most frequently in females who have had a very prompt delivery; and in support of this, Doublet cites the following sentence from Hippocrates: "A labor which is sudden and unattended by pain is suspicious, particularly if the female have already been languishing or sick, or if the lochiæ be of a bad quality. Such accouchements are frequently followed by fatal consequences." In the epidemic which prevailed in 1822 at Marbourg and its vicinity, professor Busch remarked that the disease scarcely affected any females but those whose accouchement had been easy and natural.

Professor Dugès states, that a short labor is less frequently followed by peritonitis than one of a prolonged duration. This difference is, no doubt, to be attributed to the distinction established by Dugès, between a short and long labor. According to him, labor is always short when its duration has not exceeded five

hours; in all other cases it is long. But such a distinction is arbitrary, and opposed to daily experience. The mean duration of labor appears to me to be more than five hours. It is necessary, I think, in order to arrive at correct data, to establish this mean duration, and consider as long or short every labor which should deviate from it.

Be it as it may, it is well proved that the peritoneum is susceptible of becoming inflamed after the easiest and shortest labor, precisely as it is after one of an extreme duration. If we recollect that labor is generally rapid, and accompanied by slight pain, when it occurs in a female actually affected with an acute disease, will it be unreasonable to suppose, that, among those lying-in women who, without any apparent cause, are attacked with peritonitis, a predisposition already existed—a particular condition of the solids and fluids, not coming under our powers of observation, but sufficient to influence the uterus, after the manner of what passes in diseases? The details into which I propose entering farther on, will render this opinion somewhat probable.

We can readily conceive that the prolonged and repeated contractions of the uterus may

induce inflammation of the peritoneum ; and it is by no means rare, in such cases, for the inflammation to exist at the time of the expulsion of the fœtus.

The introduction of the hand into the uterus, and the use of instruments, are likewise causes, the influence of which we cannot for a moment contest. We would, even, have reason to be astonished that these operations are not more frequently followed by the disease, if we did not remember that, ordinarily, the hand or instruments are scarcely in contact with the uterus, this last being protected by the membranes ; and, we may remark, *en passant*, that if greater facility be experienced in effecting the version of the fœtus, when, instead of rupturing the membranes at the mouth of the uterus, we succeed in penetrating their cavity near the fundus of this viscus, the facility is perhaps amply compensated by the serious danger to which the mother is exposed, as regards the consequences of the operation.

Peritonitis is to be particularly apprehended, when, during the operation employed for the extraction of the child or placenta, there occurs any laceration of either the vagina or uterus. I will even remark that, in this latter case, or after the Cæsarean operation, the inflammation of the pe-

ritoneum is inevitable. M. Dugès has shown that, in four hundred and fifty-six cases of peritoneal inflammation, thirty-two were in consequence of artificial parturition. It would be curious to ascertain in what proportion the disease has declared itself with regard to the number of accouchements effected by the interference of art.

The criminal attempts, and violence employed in order to determine abortion or hasten labor, should likewise be considered as causes of puerperal peritonitis. So likewise should we view blows, external injuries to the abdomen during pregnancy, the operation of labor, and the period of confinement. I will add to these, too great compression of the abdomen after delivery; and upon this subject I will report the following fact, which I extract from the Practice of Midwifery, by Peu, page 526.

“ In the year 1663, I delivered successfully a young lady, the wife of a lawyer. When visiting her on the second day after confinement, I was surprised to witness the sparkling expression of her eyes, and her generally disturbed condition—with insupportable pain in the head, which had prevented her from sleeping, accompanied by nausea, cough, slight syncope, belching and fetid breath, together with pain in the left

side, and oppression—all effects of the suppression of the lochiæ. I avow that these accidents caused me to reflect very seriously. I was as certain, as it was possible for any one to be, that I had left nothing in the uterus. The placenta was entire, and in good condition, as I had remarked to Mr. Mercenne, her physician. By his orders, she was promptly bled twice from the arm, and once from the foot. The symptoms, far from diminishing, became considerably augmented. It was proposed that we should examine more particularly into the cause of her suffering. I immediately assured myself of the situation of my patient's bandage; I found it drawn very tight around her abdomen, so tight, indeed, that it was difficult to comprehend how she could respire; and yet nothing had been said about it. I loosened it; the lochial discharge became re-established, and the symptoms soon vanished."

Doctor Dugès demands whether the presence of a putrid foetus in the uterus would not have some influence in the production of peritonitis? "All that I can say on this subject," he remarks, "is, that of four hundred and fifty-six women affected with peritonitis, nine had been delivered of children destroyed by maceration in the liquor

amni.

amni." This proves nothing, except that females who bring forth putrefied children, may be affected with inflammation of the peritoneum. In order to arrive at correct knowledge upon this subject, we should inquire how many of those females who are delivered of putrid children, become subjects of puerperal peritonitis, and compare the result with what ordinarily occurs after the birth of living offspring. In the mean time, I will observe that, *cæteris paribus*, those women who have putrid children, are more exposed than others; I will add, that the danger is in proportion to the degree of decomposition of the foetus. The following, taken from many others, which have occurred under my own eyes, is an example in support of this assertion.

In the year 1825, I attended the delivery of Madame C***. It was her second child. Various accidents had occurred to her during pregnancy. In the sixth month, there was an infiltration in her legs, thighs, and labia majora; the face became bloated, and there was considerable oppression, with an impossibility of remaining in a recumbent posture. A bleeding from the arm procured some relief. About the seventh month, swelling of the breasts, slight fever,

with abundant perspiration. At the ninth month, labor commenced; the pains were slow, and of but little violence. However, at the end of twelve hours the fœtus was expelled, and the after-birth soon followed. The child was in a state of advanced dissolution; the bones of the cranium were detached from the soft parts; the slightest possible traction sufficed to separate an arm from the trunk. It is probable that the fœtus had ceased to live a short time before the breasts began to swell. The mother, however, was positive in assuring us that she felt it move until the last moment of her pregnancy; but she may have mistaken, as it often happens, the contractions of the uterus for the motion of the child. Four hours after delivery, she was attacked by fever; the abdomen was tumid, and slightly painful when pressed on the right side. I ordered a cataplasm of flaxseed to be placed on the abdomen—an emollient injection, soothing drinks, and rigid diet. The next morning the same state; the lochiæ continued to flow; repetition of the same remedies. About the middle of the day there was an abundant and fetid perspiration. On the third day, perspiration continued; diminution in the fever; abdomen less swelled, and no longer painful on

pressure. I now felt less uneasiness on account of my patient; but the perspiration continued with extraordinary abundance for six weeks; it then diminished gradually; it possessed a fetid odor, which did not disappear completely until the lapse of several months.

I am of opinion that there was an absorption and transfer into the torrent of the maternal circulation of a portion of this putrescent matter, into which the foetus had been transformed—that the perspiration, possessing a putrid odor, and which had been so abundant and prolonged, abstracted from the humors the infection which they had contracted. The following observation appears to give considerable weight to this opinion :

“A female,” says Dr. Amard, “having reached the latter period of her pregnancy, entered the hospital. Her child was supposed to have been dead for five weeks, because within this period she had not felt it move; her breasts shrunk, and she felt a weight in the hypogastric region, sometimes on the right, sometimes on the left, depending on the particular attitude assumed. She slept and took her food; complained of no distress: however, an odor so insupportable was exhaled from her body, that her companions

could not remain near her. Her delivery was attended with great difficulty; the child presented the arm, and the strength of the mother suddenly failed. The child was turned with tolerable facility, for it had become putrid; there was excessive heat in the neck of the uterus. When the placenta was expelled, there passed out with it a dark-colored blood, so fetid that the entire ward was infected by it. After the delivery, her strength did not revive; the pulse remained constantly slow, intermittent, and scarcely sensible. The uterus rendered the abdomen prominent, and was elevated above the umbilicus as far as the epigastrium, dilated by the fetid gas which had formed in it. She died the day after her delivery. After death, the slightest pressure on the abdomen expelled a gas of such extraordinary fœtor, that it was absolutely impossible to open the body." (Intellectual Association, &c. t. 1, p. 352.)

Great loss of blood has been said, with reason, to favor the development of puerperal peritonitis. *Vix omittenda annotatio, says Finke, quod sub mensibus profusis sæpe sæpius viderint simul febrem accensam.* (Dissert. de Febribus Bilios. Anom. p. 155.) This opinion will, perhaps, appear singular. We might imagine, at first view,

that sanguineous evacuations would preserve us from attacks of inflammation, since they are the most efficacious remedy against it ; however, this is not always the case. Many women are affected with peritonitis after having experienced uterine hemorrhage. We may convince ourselves of this fact by reading the work of Madame La Chapelle, where we will find that nearly all those females who were attacked with hemorrhage in consequence of the placenta being inserted upon the neck of the uterus, fell victims to inflammation of the peritoneum. The plugging up of the vagina, the forced action of the uterus, the employment of refrigerants and astringents, are certainly to be considered as something in the production of the disease. It is, however, very certain that, in private practice, peritonitis is much less frequent from hemorrhage than in the hospitals, although the remedies employed be the same. There exists, therefore, another cause. I cannot attach much importance to the febrile excitement which, according to professor Dugès, appears to exert the same influence as in active hemorrhages. This influence, if it exist, should have the same effect on women who are confined in private, as upon those who remain in the hospitals. It cannot, therefore, explain the

difference which is observed in the two cases. I believe that the effect of great loss of blood is limited to a debility, which renders females more susceptible of impressions. There exist in hospitals causes of peritonitis of which I shall soon speak, and which are very rarely met with elsewhere. These causes, acting much more powerfully on a debilitated individual, produce the difference to which we have just alluded.

III. THE REGIMEN PURSUED DURING PREGNANCY, AND PARTICULARLY DURING AND AFTER LABOR, HAS SOMETIMES CONSIDERABLE INFLUENCE IN THE DEVELOPMENT OF PERITONITIS.

During pregnancy, it is not so much an abundant and nutritious diet, as the want of proper aliment, or the use of that which is of poor quality, that disposes to the disease. A female, twenty-eight years of age, who had suffered from hunger during her pregnancy, having been deprived of bread for more than a month, and obliged to eat poor vegetables half cooked, entered La Charité, at Lyon, 16th November, 1818. She was delivered naturally on the following day. On the 13th, a marked alteration in the countenance, indicating a shattered constitu-

tion; pulse small and corded; tongue dry; abdomen painful and inflated; suppression of the lochiæ. Ptisan of flaxseed and nitre, sweetened with the syrup of mallows; ptisan of violet and mullein; diluting drinks; twelve leeches to the abdomen; emollient fomentations. The 19th, the symptoms considerably augmented. Same prescription; eight leeches above the pubis. The 20th, face altered; continual cries; tongue dry; pulse corded; sensible fluctuation in the abdomen. Same drinks continued; blisters to the arm. The 21st, constant groaning, interrupted by the most piercing shrieks; extremities cold; lips livid; face covered with cold sweat; aphony; death. The peritoneum was generally inflamed, and contained in its cavity five or six pints of serosity, presenting the aspect of turbid whey. The surfaces of the different viscera and of the peritoneum, and particularly the interstices between the intestines, were covered with a thick crust formed of a solid part of this matter, resembling coagulated lymph." (Cliest Medico-chirurgical Observations, &c. p. 9.)

Food of poor quality will occasion pernicious effects, when it happens, as we too often see among the lower classes of society, that several days of privation are followed by hours of revel-

ry, in which wine, and especially spirituous liquors, are abundantly used. A ciborum potusque immoderatione, nec raro a tenui victu, ex vegetabilibus imprimis. (Boer. p. 228.)

The use of acrid, irritating remedies—emmenagogues, violent drastics, may cause an inflammation of the peritoneum. Abortions solicited by such means, have frequently been preceded or followed by a fatal peritonitis.

During the operation of labor, wine, brandy, and exciting liquors of every kind, have sometimes proved highly injurious. I will remark, however, that the vomiting, which often accompanies parturition, by ejecting the greater part of these heating substances, renders their danger much less, and at the same time less frequent. "Their influence," says Dr. Dugès, "is more rarely than we are apt to imagine so marked or prolonged as to give rise to any serious accidents." Such, however, is not the case when they are taken after delivery; and their use at this period is as fatal as that of indigestible food.

"A woman who had been safely delivered, had provided herself beforehand with a decanter of *anisette*. After the second day, she drank freely of it. Fever soon commenced, and the odor of her breath, joined to all the signs of drunkenness, indicated this act of intempe-

rance. The abdomen became the seat of the most intense pain, which the patient attributed to a crural hernia that in fact did not exist. It appeared, to use her own expression, as if they were tearing out her intestines. The sensibility of the abdomen was extreme; it was, however, soft and flaccid. The lochial discharge was not suspended; the pulse tolerably developed, somewhat hard; no intestinal evacuation. Thirty leeches were applied to the abdomen, and an emollient cataplasm placed over the wounds; castor oil was administered. Slight relief followed these remedies. On the following day a bath was ordered. From this time the symptoms diminished, and the health became re-established." (Dugès.)

The ingestion of solid aliment is to be particularly feared the first days after delivery, and during convalescence. *Diætæ errores variis modis contingere possunt. Ac primum in victu in quo puerperæ plurimum peccare solent, pluribus et copiosis ferculis sese ingurgitantes, quæ sufficienter concoqui non possunt.* (Laz. Rivière *Opera Medica Universa*, page 408. l. 15, c. 14.)

It is in hospitals that we have the most frequent occasion to observe the accidents which result from it. These accidents are so

much the more frequent here, as the patients swallow their food in secret, after an abstinence more or less long, with an avidity proportioned to the fear they have of being detected.

Frequently I have seen a fatal relapse occasioned by an indiscretion of regimen in women convalescent from attacks of peritoneal inflammation, and who were on the eve of quitting the hospital!

IV. SUPPRESSION OF THE LOCHIÆ.

For a long time the suppression of the lochiæ has been regarded as a very serious accident,—being capable of generating the most dangerous diseases. Hippocrates said, upon this subject: *nisi a partus purgamentis mulier repurgetur, magno morbo tentabitur, vitæque periculum incurret, nisi quis celeri adhibita curatione convenientem purgationem promoveat.* (De Naturâ Pueri, sect. 3, p. 239, edente Fœsio.)

Such also is the opinion of Avicenne, Mercator, Rhodion, Sennert, Rivière, Silvius, Mauriceau, Peu, Sydenham, Strother, Johnson, Smellie, Delamotte, Lieutaud, &c.

This opinion appears so natural, so conformable to what passes in cases of suppressed hemorrhage, that it has been generally admitted. In fine,

do we not frequently see inflammations occurring after the sudden suspension of an hemorrhoidal, catamenial discharge—of an epistaxis, &c.? Why should it not be the same with the lochial evacuation? The analogy is striking; and we cannot but admit that its primitive suppression, if it be sudden, will be followed by a disturbance more or less considerable in the economy. Certainly, the blood destined by nature to be expelled from the system, could not remain in the uterine vessels, and mingle with the general mass of humors, without great danger to the patient. Should the action of cold, the use of external astringents, a lively emotion, or any thing else, suddenly arrest the course of the lochiæ a few hours after delivery, very serious accidents may result; such as an inflammation of the peritoneum, womb, pleura, brain, or, in a word, any other species of phlegmasia. We will observe, in a similar case, what takes place under any other circumstances of life: suppression of a sanguineous evacuation—consecutive development of an inflammation. The cessation of the discharge precedes the appearance of the inflammation. The suppression is primitive.

But in the same way that a similar connection may exist, so precisely may it happen that

the development of a phlegmasia, during a sanguineous evacuation, may occasion the suppression of this evacuation. Do we not every day witness something analogous at the time of the milk fever? It appears to me that things pass in this way among the greater portion of women affected with puerperal peritonitis; and the suppression of the lochiæ, when it occurs, is, in my opinion, more frequently the result than the cause of the disease. "We often observe," says Delaroche, "the most dangerous symptoms of puerperal fever manifest themselves without having been preceded by any alteration in the quantity or quality of this evacuation, which, on the other hand, becomes sometimes very promptly suppressed, without the slightest accident following." (*Researches on the Nature and Treatment of Puerperal Fever, &c.* p. 145.) In addition, he adds, "White even assures us that he has frequently observed that women whose lochial discharge was most abundant, appeared more disposed than others to what is denominated putrid fevers." (*Advice to Pregnant Women, &c.* p. 67.)

The suppression of the lochiæ is rarely complete; there is generally nothing more than a diminution; and still more commonly this diminu-

tion is not perceptible until several hours, and even days, after the appearance of the disease. We sometimes observe that the course of the lochiæ is not deranged, and that it scarcely undergoes any change during the whole period of puerperal peritonitis. "The abdomen becomes gaseous and excessively painful, without there being the least deviation in the lochiæ." (Memoir on the Epidemic at the Hotel Dieu, in Paris, in 1782.) At other times, this evacuation continues, ceases, is renewed, and again ceases, without exerting any influence on the progress and intensity of the disease. Would this be the case, if the suppression of the lochiæ were the cause of the peritoneal inflammation?

Authors who attribute the disease to the suppression of the lochiæ, say, in support of their opinion, that convalescence is preceded by the return of this evacuation. This does, indeed, sometimes occur, but not as frequently as is imagined. It is much more common to witness the cure before the lochiæ re-appear; and, moreover, their return does not appear to me to prove that their cessation was the cause rather than the effect of the disease. We see every day a violent disease causing the suppression of one or more of the secretions, which are not re-esta-

blished until after a notable amendment. Thus, for example, a fever declares itself; immediately, the cutaneous, pulmonary perspiration, and mucous secretions are suspended; the breath is heated; the skin, tongue, and interior of the mouth become parched. After a variable period an abundant perspiration is established; the tongue becomes moist, and the thirst disappears. In this instance, will it be said that the fever has been occasioned by the suppression of the cutaneous transpiration, pulmonary perspiration, and mucous secretions? Most certainly not. Nor are we more warranted in regarding the suppression of the lochiæ as the cause of peritonitis, when this suppression occurs after the development of the disease. Should the lochiæ re-appear, their return must be attributed to a favorable change in the malady. "The return of the lochiæ," says White, "is sometimes one of the first signs of convalescence; but we must regard it rather as the effect than the cause. This subject has been ably elucidated by doctors Denman, Johnson, Millar, and Manning." (Page 246.)

Among certain women, there is no lochial evacuation. "They are as *dry* a short time after delivery," says Delamotte, "as before confinement; and their return to health is as

prompt as in ordinary cases." White likewise observes, " Experience teaches us that the evacuation of the lochiæ is not only very different in different women, but that it is not always alike in the same woman at her different confinements; from which, however, she recovers with the most perfect health. I have frequently known this evacuation to be arrested on the first day, without the slightest accident." (P. 66.) I have had several occasions to remark the same fact, particularly in two females, to whom I had administered, with the greatest possible success, an infusion of ergot. The lochiæ commenced flowing only on the fifth day; they were in very small quantity, and still no inconvenience was experienced. The total absence of fever, the flaccidity of the abdomen, its insensibility on pressure, gave me sufficient indications of a prosperous termination; convinced, from the authority of Mesnard, that if the accidental suppression of the lochiæ was susceptible of giving rise to serious consequences, their spontaneous suppression is unattended by any inconvenience.

The theory which I oppose has for a long time exerted a fatal influence over the treatment of puerperal peritonitis. This is a truth we cannot too frequently repeat—on which we can-

not too seriously meditate. How often, with the intention of re-establishing the lochial discharge, has not the use of excitants of every description, under the name of emmenagogues, aggravated the disease, by throwing, as is vulgarly said, oil upon the fire! "The erroneous practice to which it has led physicians," says Delaroché, "is a very great inconvenience attending this doctrine of the lochiæ. How many cases of enteritis have been treated by remedies extremely irritating, such as myrrh, assafoetida, aloes, scammony, the most heating aromatics, &c.! Such imprudence has proved fatal to the lives of innumerable victims, who might otherwise have been preserved!" (P. 149.)

Though this theory has lost many of its partizans, I have nevertheless deemed it necessary to endeavor to demonstrate, by an attentive observation of facts, that it rests altogether on deceptive appearances. The features of truth conferred on these mere appearances, may be traced to the school in which they originated.

V. THE SUPPRESSION OF THE SECRETION OF MILK.

MILKY METASTASIS.

It was at the commencement of the 18th century that this suppression was especially regard-

ed as a powerful cause of disease among lying-in-women. Willis was the first who particularly called the attention of physicians to it, although before him Mercatus, Rodericus a Castro, and Schenckius, had made mention of it. The opinion of Willis was generally adopted, especially by Puzos, Levret, Doublet, Deleurye, Doulcet, Sauvages, Van Swieten, Selle, Gruner, Fuchs, and Hufeland.

Soon after this, physicians considered the diseases of lying-in women as mere ravages occasioned by the milk. These diseases received the name of *milky deposits*, without reference to their particular seat. As far as regarded peritonitis, it was supposed that the milk, in ceasing to flow towards the breasts, was carried into the torrent of the circulation, and deposited in the cavity of the bas-ventre, where it speedily determined inflammation of the mesentery, epiploon, intestines, &c. The treatment was predicated upon the theory; and hence it was, at this period, that the anti-lactic remedies of every sort appeared.

Facts soon demonstrated the incorrectness of this doctrine. It was discovered that the disease might manifest itself before the commencement of the milky secretion, and even during pregnan-

cy. However, the partizans of metastasis did not consider themselves vanquished; they contended that the milk existed in the blood from the commencement of gestation,—that it already served for the nourishment of the foetus,—and that, after delivery, it was carried to the breasts, which were in some sort mere organs of transmission. *Negare cæterum nolo, says Selle, hanc humoris lactiformis collectionem sæpe fieri, ubi nulla fere lactis in mammis secretio antea facta est. Hoc autem theoriæ nostræ fundamentum suffodere minime valet. Hic enim eadem lymphæ, quæ ad lactis secretionem, inservire debuit, alibi congesta fuit, nec mammas contingere potuit. Quando ergo huic lymphæ, quæ tanta copia ad uterum graviditatis tempore adfuit, uteri contractione obex ponitur, eadem lymphæ ad alias partes, præcipue ad mammas, congeri debet, nec mirum, hisce obstructis, stagnationes lymphæ in aliis partibus fieri. (Rudimenta Pyretol. Meth. edit. tertia, p. 283.)*

In depriving the mammary glands of the secretory functions which they enjoy, these authors did not even give themselves the trouble to indicate what particular organ replaced them in the secretion of milk. They saw the milk already formed in the blood, without feeling the ne-

cessity of inquiring how and whence it came. It is thus that, in order to defend their theory, they were obliged to have recourse to suppositions contrary to all the known laws of nature : for I do not think that they could ever have been satisfied with the following explanation by Tissot : “The effusions of milk, milky deposits and evacuations, without any of this fluid ever having appeared in the breasts, would induce us to believe,” says he, “that pregnancy causes such a change in the vessels, that they convert chyle into milk, without the co-operation of the mammæ. It would be difficult, perhaps impossible, to explain this action ; which, however, is no reason why we should reject it. But may it not rather be supposed that, even when milk has not been detected in the breasts, yet it existed in small quantity, and not being able to pass through the excretory vessels, it was returned to the general circulation,—that it had a specific action upon the part to which it is most analogous, videlicet, the chyle,—that it assimilated itself with it, and constituted pure milk,—that this first chyle, converted into milk, mingled with a fresh portion, and that thus the greatest part of the chyle becomes changed into milk, without having been carried to the breasts ? which will explain satis-

factorily all the disorders produced by this fluid in women, who, to all appearance, never possessed any of it, which is by no means rare; these even are frequently the most dangerously sick." (T. 2, p. 401.)

It strikes me that this last phrase should have proved to Tissot the weakness of a theory, which he has in vain endeavored to explain. It is a proof of the influence which prejudice exerts over the best minds. *Quid neglectæ dubitationes ac opiniones præconceptæ medicinæ impedimenti per tot sæculorum decursum attulerint, patet ex praxi quæ pro nobis loquatur.* (Amman.)

We cannot deny, as I have already remarked, that conception and pregnancy effect a remarkable change in the humors, and particularly in the blood—a change which is visible to the naked eye. It is true that the serum of the blood sometimes appears whitish, and that frequently a pellicle of the same color is formed on the surface of the clot. But from the color alone, is it proper to infer that the serum is nothing else than milk? It seems to me this is deficient proof. Who does not know that chyle assumes no other appearance? Will it therefore be said that chyle is milk? In a word, this whitish color of the

serum is not peculiar to females; we sometimes observe it in the blood when drawn a short time after a meal. The following is a fact of still another nature, which I extract from the *General Journal of Medicine*, and which appears to me sufficient to shake the conviction of the most obstinate partizans of milky metastasis.

A hatter, thirty-nine years of age, of strong constitution, fickle and very irritable character, had experienced for an hour and a half vertigo, weight and uneasiness in the head, particularly about the posterior part of the base of the cranium, when he sent for my learned colleague, Dr. Collineau. This hatter had not been guilty of any indiscretion in diet for a considerable time; he had taken but half a glass of wine an hour before the arrival of Mr. Collineau, and had been walking quickly for about twenty minutes. He was immediately bled from the right arm. "The blood, as it passed from the vein, was thick, of a light dirty red, and in proportion as it cooled in the basin, it was changed to a sort of marble, and whitish red colour. Some drops which fell upon the floor became white in a few instants, and presented the aspect of *chocolat au lait*. There were nearly twenty ounces of blood abstracted. In an hour and a half a clot of ordinary size was

formed, surrounded by a large quantity of a whitish opaque fluid, precisely similar to milk." (T. 106, p. 67.)

It will not be said that milk was drawn from the system of this latter,—and yet the serum of the blood was *precisely similar to milk*. To what errors are we not exposed when we confine our observation to external appearances alone!

The frequent appearance of peritonitis before the secretion of milk commences, saps the very foundation of the doctrine of milky metastasis. We will see, farther on, that this doctrine is not better supported by chemical analysis. It may be remarked, that the secretion of milk frequently occurs, notwithstanding the existence of the disease. This secretion is then sometimes retarded for one or more days: it may be suppressed at the commencement of the disease, and re-appear during its progress, without the patient receiving any benefit from it. At other times, it is diminished or suppressed two or three days after the invasion of peritonitis. Among certain women, it continues until the period of death: Vidi, certe, observes J. P. Franck, puerum plenis buccis ubera sxisse lacte plenissima matris, quæ post paucos dies a febre puerperali fuit extincta. (Nolde. p. 35.) Borsieri has made the same observation:

Tamen haud infrequens est, says he, lactantes quoque febre puerperali interdum corripì et periclitari, quod non semel nobis videre contigit; imo lac quandoque copiosum, præsente hac febre, in mammis secerni, eoque mammas ad postremum usque morbi stadium manifeste turgere. (Institut. Med. Pract. p. 525.) In the post mortem examination, we will often observe the milk to flow in great abundance, when we cut into the mammæ; we will sometimes obtain it by merely pressing upon them: Leake has spoken of this fact, and it has likewise been noticed by many other practitioners, particularly by Oslander, Chaussier, professor Deneux—and I myself have had frequent occasion to remark it.

On the other hand, it often happens that “the cure of the disease is effected without the revolution of the milk having taken place; that is to say, the breasts do not swell, as ordinarily occurs, the third day after delivery.” (Memoir of the Physicians of the Hotel Dieu, p. 13.) The milk scarcely ever re-appears except when we endeavor to procure its return: frequently we cannot succeed in restoring the secretion until after convalescence has commenced, and when the natural strength begins to return, as occurred in a case reported by Planchon, a dis-

tinguished partizan of milky metastasis. Speaking of his wife, who had been affected with peritonitis, he says, "about two months and a half after delivery, she, for the first time, perceived a few drops of the fluid which was destined for the nourishment of her child. It increased in quantity every day, and in proportion as her health became re-established, it was secreted more abundantly." (*Journal of Medicine*, t. 24, p. 437.)

It appears to me that, if the suppression of the secretion of milk were the cause of peritonitis, we might expect a very different order of things.

The partizans of milky metastasis state, as confirmatory of their opinion, that women who nurse their children are less subject than others to attacks of puerperal fever;—that the act of suckling has frequently arrested this fever;—that the re-establishment of the milky secretion is rapidly followed by the cure of the disease. I shall now examine successively each of these assertions.

In admitting as true that nurses are less frequently affected with peritonitis, which does not appear to me by any means demonstrated, we may explain it without having recourse to the

doctrine of milky metastasis. With nurses, the mammæ become a centre of action, and by concentrating the vital forces, offer an obstruction to any improper direction these forces might effect. The evacuation of the milk sustains and increases this action.

In the same manner, by attracting the vital movements, establishing a centre of action, and perhaps diminishing an excess of force—but particularly by acting as a revulsive—the act of suckling has sometimes succeeded in arresting a slight and incipient peritonitis: but should the disease be intense, this will be altogether insufficient. Leake, a long time since, made some very conclusive experiments upon this subject, and their accuracy has since been repeatedly proved: it will suffice to read the facts and reasoning which Doublet has opposed to the assertions of Leake, in order to be convinced of their weakness.

Not only is lactation frequently insufficient, but it is sometimes injurious. It may become the cause of peritonitis. This will, perhaps, be deemed a medical heresy by many;—however, its truth is incontestable. The following is a remarkable example of what I advance, observed and reported by Dr. Vandenzande, whose ex-

cellent work I shall have frequent occasion to notice.

A young woman, twenty-two years of age, of a robust constitution, had been delivered three days. Her milk was abundant; and on the very day of her accouchement the child was admitted to the breast; but the suction producing intolerable pain in the abdomen, she was unable to have the application of the child renewed. She was free from fever, but complained of slight pains in the abdomen. An anodyne julep, with the syrup of white poppies and a small quantity of antimonial wine, was prescribed. As regarded the suction, her attendant, attributing her refusal to a desire she had of leaving the hospital, she was ordered to continue nursing the child, which was applied to the breast several times during the day. On the following morning, very acute abdominal pains; high fever, which had continued all night; lochiæ suppressed; breasts empty and flaccid; pulse hard, small, concentrated; no position but that of supination supportable. Here was evidently a case of peritonitis, which yielded in four days to the use of calomel, mercurial frictions, and opiates. "We perceive," says Mr. Vandenzande, "in this case, that suction, recommended by most authors as

both a preservative and curative means of puerperal peritonitis, determined sympathetically upon one of the most sensible parts of the abdomen, an increased action, which suddenly assumed the character of a phlegmasia. I have since been reserved in the employment of this revulsive agent, and am well persuaded that its influence is very feeble as long as the inflammation is not subdued." (P. 54.)

I have observed several cases similar to that mentioned by Dr. Vandenzande: the following appears to me sufficiently interesting to merit a place here.

Madame, the baroness of V***, was safely delivered of her third child, after a very painful pregnancy. She had suckled the two first: she desired to nurse the third, which was attended with considerable difficulty, owing to the extreme debility of the child, it not having sufficient strength to make the necessary effort. With the exception of this, every thing went on well.

It became necessary to employ a strong and healthy child two months old, in order to elongate the nipple, and cause the milk to flow. The first few times that this child was applied, Madame V*** experienced considerable pain in the hypogastric region. The pain was dissi-

pated as soon as the suction ceased ; however, it became more and more violent, and continued after the lactation. The sixth day after delivery, and the second from the first application of the child, the pain in the bas-ventre had not entirely disappeared ; its severity was lessened only during the intervals of suction. The hypogastrium was painful on pressure, and somewhat swelled ; the pulse was accelerated. I directed the child to be applied to the breast in my presence ; the pain in the abdomen became singularly exasperated. No longer doubting the cause of the pain, the child was immediately taken from the breast, and the abdomen covered with an emollient cataplasm. I ordered a rigid diet, a calming ptisan, and an injection composed of a decoction of flaxseed. The pain gradually abated, the tumefaction of the abdomen diminished, and the pulse became less frequent. In the space of forty-eight hours every thing resumed its natural order.

Madame V*** now recommenced nursing the child, without a recurrence of the same accidents. I assured myself that, during the suction, the child did not press upon the hypogastrium, and that the patient could move, and sit up, without experiencing a renewal of the pain which she had felt when the child was first applied to the breast.

It is evident that when I caused the lactation to be discontinued, there existed a slight peritonitis. The phenomena which preceded and accompanied its development, were strong proof of its cause. What would have been the consequence if, neglecting its cause, I had ordered the lactation to be continued, in the hope of obtaining a salutary revulsion? Is it not probable that, as in the case reported by Dr. Vandenzande, the peritoneal inflammation would have acquired much greater intensity?

I delivered, in January last, a female of her third child. During the four first days, each time that it was applied to the breast, violent pain in the hypogastrium was experienced; on the eighth day, this pain had entirely ceased. As in the case of Madame V***, she had experienced nothing similar in nursing her other children. I could cite many analogous cases; they are certainly not rare. At this moment, for example, the wife of one of my colleagues experiences great pain, and has an abundant discharge from the vulve each time that she nurses her child. It is ten days since she was delivered.

Professor Deneux described, about a year since, the case of a young lady who had fallen a victim to peritoneal inflammation, the first symp-

toms of which manifested themselves while she was nursing her child on the night of the third or fourth day after delivery. She experienced pain whenever the child took the breast. On one occasion, the pain became intense, and was followed by a chill and the development of such an acute peritonitis, that, notwithstanding the most prompt and energetic treatment, she died on the fourth day, being the seventh after her accouchement.

The re-establishment of the milky secretion, it is said, is promptly followed by the cure of the disease. Experience proves, as I have already stated, that there is frequently not the slightest connection between the recovery and this re-establishment. When, in fact, this connection is observed, would it not be more exact to change the phrase, and say, the cure may be promptly followed by the re-establishment of the secretion of milk?

A violent disease declares itself, an organ becomes an attractive centre of action, the secretion of milk is diminished or suppressed; but this secretion is not the only one deranged; it is the same with the lochiæ, with the cutaneous, pulmonary perspiration, with the secretion of mucus, urine, &c. Si sæpius mammæ

concidant, videtur hoc multis aliis secretionibus commune esse ut, accedente febre, arescant. (J. P. Franck.) But, when the disease has lost its intensity, the equilibrium re-appears in an equal proportion in the vital forces, humors, &c. and all the secretions become insensibly restored. This appears to me to be the simple expression of facts; it is entirely conformable to the ordinary laws of nature, and is as applicable to puerperal peritonitis as to any other disease, to the secretion of milk as to that of any other humor.

In contesting the influence which many suppose the milk to exert over the diseases of lying-in women, I am far from regarding its suppression as always exempt from danger. Many females have fallen victims to their foolish pride, by wishing to prevent an enlargement, which would destroy the beauty and form of certain organs which they desired to render subservient to other uses than those assigned them by nature.

The suppression of milk may be followed by serious accidents. When it occurs suddenly, in consequence of some strong moral emotion, or when it has been induced by the use of astringents, &c. it may produce peritonitis. "Numerous observations," says doctor Mercier, "place this fact beyond all doubt: but it does not fol-

low that the fluid thus suppressed preserves its homogeneous character. A young woman, three days after her accouchement, placed a cataplasm of elder flowers upon her breasts, in order to free herself from the milk which distended them; in twenty hours after the application the milk was removed, but a tumor appeared in the left groin, with fever, tension, pain, constipation, and all the symptoms characterising phlegmon. In fifteen days, the tumor, which had acquired a large size, was converted into an abscess, without any other means than diet, emollient washings, an infusion of *scorsonère*, and local emollient applications. The pus compared with that of an ordinary phlegmon, which was opened the same day, same hour, and in the same house—the subject being a girl of eighteen—appeared to me perfectly similar by its consistence, color and taste. Both were without odor. I concluded there was as little appearance of milk in the one as in the other.” (Inaugural Dissertation, p. 50.)

The following observation has still a more direct connection with my subject. I extract it literally from the Journal of Medicine, Surgery, and Pharmacy, by Roux, t. 34, p. 283. It appears under the title of *Considerable effusion of*

milky matter in the cavity of the abdomen, cured by puncture, by M. Bossu.

“The wife of Francis Testu, of the parish of Brissy, in Picardy, of the diocese of Laon, being of a robust and sanguineous temperament, was safely delivered at full term of her first child. The lochial discharge was established at first, and continued with great regularity, when, on the third day after delivery, the milk ascended to the breasts with such precipitation and abundance, that in a very short time it caused a violent tumefaction, accompanied by considerable tension and heat, which extended to the axilla, neck, and in fine to the whole chest; so that she could not move her head but with great difficulty, and was obliged to keep her arms elevated, without being able to bring them down towards the sides. Respiration was difficult, and the pains very acute. The fever, which declared itself from the moment the milk begun to flow towards the mammæ, augmented in proportion to the accidents just stated—produced great thirst, and occasioned a very remarkable diminution in the lochial evacuation.

“Although this female nursed her child, and a large quantity of milk exuded from the breasts, still she was not relieved. An individual in her

neighborhood advised her to apply to the affected parts, clay steeped in vinegar. This advice was readily followed; and four days after the use of the remedy, the tension, pain, and size of the breasts diminished considerably; the respiration was much more easy; but the fever continued, with occasional chills; and in proportion as the milk left the mammæ, the abdomen became inflated, and was the seat of violent pain and tension.

At this period, eight or nine days after the first application of the above remedy, I was sent for. Learning from the attendants that the suppression of milk had not been followed by an evacuation, I did not hesitate to impute the disorders of the abdomen to a metastasis of this fluid; consequently, I deemed it necessary to bleed the patient, and, notwithstanding the flow of the lochiæ, I was induced, from the swelling and tension of the abdomen, to prefer abstracting blood from the arm. I ordered injections of warm water, and flannels wet with some emollient fomentation to be applied to the abdomen; tea and an infusion of veronica were prescribed; she was put on a rigid diet, and the child ordered to be removed. In the evening I repeated the bleeding; and the next day, not

perceiving any sensible change in the condition of my patient, I again had recourse to venesection. The following day the fever was considerably diminished—and the urine, somewhat foul, flowed rather abundantly. In order to promote its secretion, I directed the use of aperient broths, which were rendered purgative, every three or four days, with the salts of Duobus. There was not a drop of milk in the breasts, and tranquillity soon succeeded the fever, thirst, and pain which had so much disturbed her; but the abdomen becoming more and more enlarged, I made an attentive examination, and was not a little surprised to find a distinct fluctuation.

“Despairing now of the absorption of this matter, which appeared to me to be in great quantity, I was of opinion that there was no other hope than that of puncture. An opposition on the part of the relatives caused it to be deferred for some days. They finally consented to it, and I drew off by this operation about fifteen pounds of milky fluid, charged with small clots, occasionally stopping up the canula of the trochar, which, however, was soon remedied by the introduction of a stylet. The fluid having ceased to pass through the canula, I injected a portion of warm water, which was soon re-

turned mingled with what remained of this milky material. I continued these injections until the water came out nearly clear. The ordinary bandage for paracentesis was then applied, and the patient soon fell asleep.

“ The day after the puncture, I found her quite comfortable, complaining merely of slight pain in the abdomen, which was of but short duration, and most probably occasioned by the natural adaptation of the parts after the evacuation of the fluid.

“ There was no subsequent effusion, and the milk appeared in the breasts in sufficient quantity for the child, which now continued to nurse.

“ The lochial discharge, which had not undergone any very sensible derangement, notwithstanding the repeated bleedings from the arm, continued for nearly a month, and in a short time the patient was restored to perfect health. She has since had several children, all of which she has nursed, without the renewal of any of the accidents which had followed her first confinement.”

“ This fact on many accounts is very curious; it confirms several opinions which I have already expressed. We see, in the first place, the suspension of the milky secretion occasioned by astringent applications, and the immediate conse-

quence to be inflammation of the peritoneum. This phlegmasia produced no sensible derangement in the course of the lochiæ. As soon as the patient was convalescent, the milk, which had disappeared from the breasts, returned : but this return was evidently the effect, the consequence, and not the cause of the cure : we cannot with any reason contest the truth of this assertion. I will recur hereafter to the treatment employed during the course of the disease, and I shall find additional proof in support of my opinion. I will merely observe here, that the development of peritonitis at the same time that the secretion of milk was arrested, does not prove that the milk had been carried to the abdomen, or that there had occurred any metastasis. It is easy to explain it otherwise, and in a manner that accords much better with the facts. An inflammatory movement takes place towards the breasts ; if this movement should meet with an insurmountable obstacle in the mammæ, there will be no secretion, no exudation of milk. It may happen that the fluxion, instead of ceasing, will direct itself towards the peritoneum, where we must suppose it is attracted in preference to any other part by some particular agent ; then, instead of a milky secretion, inflammation ensues, which will produce an exhalation of sero-

sity more or less abundant, more or less charged with fibrinous concretions. I have supposed that the inflammatory action would be directed towards the peritoneum: it might likewise be directed towards the pleura, lungs, brain, &c. There then passes what we observe in circumstances entirely opposed to the particular condition of the puerperal state, after the suppression, for example, of the menstrual or hemorrhoidal evacuation. Have we not frequently known a peritonitis, pleurisy, pneumonia, &c. to be the result of a similar suppression?

VI. CONSTIPATION.

Rare in epidemic, constipation is frequent in sporadic peritonitis. It is difficult to say whether it should be regarded as the cause or effect of peritoneal inflammation. We can readily imagine both of these suppositions. In fine, it may happen that peritonitis, by diminishing the biliary, pancreatic, and mucous secretions, will become the cause of constipation. It may also happen that the collection of fecal matter, by distending the intestines, either by its volume alone, or by the gas it evolves, will produce inflammation of the peritoneum. It is by no means uncommon to find acute pains of the bas-ventre

disappear after an abundant defecation, and entirely in consequence of this evacuation. It appears to me that the retention of fæces, occasioned at first by inflammation, may afterwards become a cause of inflammation, and thus be successively effect and cause.

White attributes to constipation another mode of action, to which he frequently refers. He says that, after the fecal matter has remained for a certain time in the intestines, it becomes putrid, and its absorption is the cause of puerperal fever.

The opinion of Denman with regard to the danger of constipation is evident. He says, "Neglect in procuring evacuations, after delivery, especially in women who do not nurse, will occasion puerperal fever." (Essay on Puerperal Fever, p. 17.) In the year 1821, among a great number of women affected with puerperal peritonitis, whom I had occasion to observe in the *Maison d'Accouchement*, I noticed that more than four fifths of them had not had an evacuation for four or five days after their arrival at the hospital. Injections had frequently been administered, and returned without being accompanied by any fecal matter.

Peritonitis was at this period sporadic.

VII. RETENTION OF URINE.

This retention is not very rare after delivery. If we do not hasten to remedy it, it may, by the distention it occasions, give rise to peritonitis. There are some cases recorded of rupture of the bladder, and of effusion, which were promptly fatal. This cause of peritoneal phlegmasia is not peculiar to the puerperal state; it is much more active after apoplexy, cerebral commotions, ataxic fevers, &c.

VIII. RETENTION OF THE PLACENTA IN TOTALITY OR IN PART; OF CLOTS MORE OR LESS NUMEROUS; OF THE LOCHIÆ.

When an accident of this kind continues for any time, it either happens that the uterus, by contracting upon the foreign body, expels the most fluid portion of it, whilst that part of it which is solid becomes dry, and is thrown out at some indeterminate period; or that putrefaction commences in this foreign body, which falls into decay and is expelled in the form of an infectious sanies, during a variable time, according to the volume of the retained parts. In this latter case, which

occurs particularly after abortions, peritonitis may be generated,—and it is to be ascribed to no other cause than that of putrefaction. “We have lately seen,” says Franck, “a portion of the placenta retained in the uterus after abortion, occasion considerable tumefaction and pain in the abdomen, not in the immediate vicinity of the womb, but under the left false ribs. The expulsion of the foreign body dissipated in a short time all the symptoms.” (T. 2, p. 35.)

Harvey understood very well the dangers to be apprehended from the putrefaction of the placenta. *Si quid placentæ utero annexum relinquitur*, says he, *lochia male olentia, virescentia et cada-verosa promanant; et nonnunquam prostratis prorsus uteri viribus, sphacelismus repentinus necem adfert.* (*Exercitationes de generat. &c.* p. 522.)

Dr. Amard has published a case of peritonitis—which he calls putrid-bilious fever—caused by the putrefaction of a portion of the placenta in the uterus, after an accouchement at full term. This case appears to me so very curious that I cannot do otherwise than quote it at length: “A female of middle age, possessing a feeble constitution, retained a portion of the placenta, which the accoucheur was

unable to extract. The third day after delivery, she experienced very acute pains in the hypogastrium. On the fourth, the breasts were slightly swollen, and the pain in the hypogastrium much increased; she had a discharge of pure blood. On the fifth, the blood continued black and fetid; tongue yellow, mouth bitter, and a febrile heat over the whole body. On the sixth, a part of the putrefied placenta came away, and the discharge ceased. The bitter taste increased; she felt a weight in the epigastric region; she was now affected with diarrhœa, and the tongue assumed a dark color. The pain in the hypogastrium continued. On the seventh, twenty-five grains of ipecacuanha were given her; fomentations to the abdomen, and aromatic injections up the vagina and uterus. The ipecacuanha had very little effect. On the eighth, the pain in the hypogastrium continued with great violence; pulse small, tongue black, diarrhœa frequent and fetid, and the face was singularly altered. She remained on her back, the limbs being in complete supination. The skin hot and dry all night; no sleep. On the ninth, she took thirty grains of ipecacuanha, and vomited yellow and bitter matter. The diarrhœa was arrested. The pain in the hypogastrium augment-

ed; there was now a discharge of black blood. Soon afterwards a portion of the placenta was expelled, together with clots of blood possessing a fetid odor. The pain in the hypogastrium immediately subsided. On the tenth, she was enabled to lie on her side. On the eleventh, pain in the hypogastrium returned. She was ordered an injection of simple water, which produced an evacuation of fetid bilious matter, and the pain was relieved. On the twelfth, tongue more natural. On the fourteenth, she slept well; pulse somewhat stronger; tolerable appetite. The following days, she had a return of the diarrhœa. On the twenty-first, she left the hospital cured, but in a very weak state. The fomentations and injections were ordered to be continued. She drank alternately a vinous lemonade, and a ptisan of acidulated barley water." (T. 1, p. 357.)

The state of the hypogastrium, of the pulse, the aspect of the countenance, the fact of her lying upon her back, are all so many circumstances which leave no doubt as to the existence of peritonitis. The cause of the disease is evident, for relief immediately followed the expulsion of the putrefied body. We must not lose sight of the return of the pains, after the suspension of the diarrhœa; we must likewise keep in view

their disappearance after an evacuation solicited by means of an enema; the obstinacy of the diarrhœa, which reappeared and continued until the cure was effected; and in fine, the fetid character of the excreted matter. These remarks will hereafter confirm practical views of great importance.

Ruleau has had occasion to remark the pernicious effects of clots of blood retained in the uterus. (Treatise on the Cæsarean Operation, &c. p. 227.) Delamotte reports a remarkable example of it in his Treatise on Midwifery, p. 1176. The following is his observation: "The 8th of May, in the year 1701, the wife of an officer of the Maison Royale, living four leagues from this, and who had been three days delivered, sent for me in great haste. I found her with fever; the abdomen hard and painful; she could not bear the slightest weight, not even her chemise. The lochiæ had been arrested for two days, in place of which there exuded a reddish fluid, of an insupportable odor, with violent pains, which caused me to send for the *sage-femme*, who, however, assured me that the placenta had come away entire. But, as the symptoms appeared sufficient to justify me in believing the contrary, I placed the patient in the ordinary at-

titude for delivery, when, without any difficulty, I introduced my finger into the internal orifice of the uterus, where I found a small membranous body. I introduced a second finger, and between the two, I extracted this small body, which had become foreign by its remaining in the uterus. I afterwards extracted some clots of blood. They were extremely fetid, and several others of the same quality were expelled during the night. The lochiæ now assumed their ordinary course, and in the morning I left the patient free from all the accidents with which I had found her upon my arrival—for in removing the cause the effect was soon destroyed; she recovered perfect health." This fact requires no comment. The connection between the cause and effect is sufficiently evident.

I do not pretend to say that peritonitis will always occur, whenever a foreign body putrefies in the uterus: my object was to prove that this will sometimes be the case. *Si extravasati humores libere exeant, says Van Swieten, a putredine nihil metuendum erit. A mora ergo in cavo vel sinibus uteri imprimis metuendum est ne putrescant extravasata, uterum ipsum male afficiant, et resorpta pessimas febres producant, vel ad alia corporis loca deposita, et illa putredine infi-*

ciant. (T. P, p. 543.) Gorter ascribes puerperal fever to the absorption of putrefied blood retained in the cavity of the uterus, or in the folds of the vagina.

White has singularly exaggerated the frequency of this cause of peritonitis: "The lochiæ which remain in the uterus, and in the folds of the vagina, assume also, in a short time, the character of putridity These lochiæ are in part absorbed by the lymphatic vessels of the uterus and vagina." (P. 91.) He adds, (p. 405,) "The immediate cause is the absorption of an acrid and putrid matter, which comes from the intestines and uterus."

The opinion of White has lately been mentioned as something new. It is founded principally upon the fact that, in opening women who have died of peritonitis, a layer more or less thick of putrid matter is found in the interior of the uterine cavity. But I will remark that this matter is not peculiar to women who have fallen victims to peritonitis; it is likewise seen when death has been determined by any other disease. Its quantity varies according to the length of time the female has been delivered. Its existence is due to a particular action which takes place upon the internal surface of the uterus, and which is

necessary in order to place this organ in the same condition in which it was before conception. It has been said, with reason, that this surface became the seat of a real suppuration. Quippe uterus a placentæ separationē, præcipue violenta, excoriatus, tanquam ulcus ingens internum, lochiorum liberiore emanatione detergitur et mundificatur. Per lochia emanat primo sanguis purus, postea saniosus, recentis carnis loturæ similis, deinde ichorosus. (Harvæi exercitat. de generat. &c. p. 522.)

We can readily imagine that, if any particular circumstance should cause a retention of the suppurated matter, this matter may become altered, undergo a degree of putridity more or less considerable, be absorbed, and thus generate disease; but these cases are very rare. Harvey, however, has observed them. Observavi autem in nonnullis, says he, orificium uteri statim a partu constrictum adeo ut detentus intra uterum sanguis, subitoque inde grumescens et putrefactus, sæva induxerit symptomata, cumque nulla arte exitus ei parari posset, præsentaneam mortem intulerit.

Puerperæ cuidam nobilissimæ, febricitanti, quod lochia nulla profluerent, pudendi labia tumida erant et fervida; matricis ejus orificium du-

rum et clausum instrumento ferreo immisso per vim aliquantulum aperui, ut injectionem per syphunculum admitteret, indeque grumescens, ater fetidusque sanguis ad libras aliquot effluxit, cum præsentī ægræ levamine. (Exercit. de gener. p. 523—24.)

White states that the horizontal position, which females retain for the first few days after delivery, favors the retention of the lochiæ. But the mode of governing lying-in women is in general the same for all in the same hospital; it is the same at all periods; and yet, we remark that at a certain epoch, peritonitis is more or less frequent without any change having been made with regard to the attitude of the patients.

Certain authors have imagined that the matter retained in the uterus penetrates the cavity of the peritoneum through the fallopian tubes, and thus produces inflammation. Ruysch states that, on opening the abdomen of two women who died after delivery, he found in the cavity of the pelvis a large quantity of fetid matter, similar to the washings of meat, or corrupted lochiæ. Did these humors pass from the uterus into the pelvis through the fallopian tubes? "I believe it readily," says Ruysch, "because they were similar to those I had formerly found in the uterus;—because, when the head or breech of the

foetus so entirely fills up the cavity of the vagina that not a single drop of fluid is permitted to pass, nothing prevents these humors, contained in the uterus, from being pushed through the fallopian tubes into the pelvis; and this is so much the more reasonable, as the tubes are deprived of valves. Hence arise dangerous fevers, violent pains in the hypogastrium, syncope, and other similar affections." (Mercier, p. 18.)

This explanation of Ruysch, though so unsatisfactory, has been repeated by Selle. *Neque ratione carere videtur, says he, per easdem tubas humores nonnunquam in abdomen effundi.*¹ (De Curand. Homin. Morb. p. 493.)

If such a communication has ever taken place, it is only necessary to have opened the bodies of women who have died of peritonitis to be convinced that it is by no means common. I must remark that I have never met with any thing which would make me suppose this communication, though I have examined with great care a considerable number of bodies: neither can I admit, with doctor Ozanan, that the mixture of serous fluid and flocculent particles which are to be found in the peritoneum, is due to the mucosities passing from the cavity of the uterus through the fallopian tubes.

The putrefaction of the matter retained in the uterus, is easily detected by certain characters: the odor causes it to be very quickly recognised. That of the ordinary lochiæ is nearly the same in all women. I have never remarked that this odor was changed in consequence of peritonitis, when the lochial discharge was continued; and I am not aware of any observation which mentions the putrid odor of the lochiæ as a thing of ordinary occurrence in this disease.

I shall terminate the present article by mentioning the opinion of the ancients, who imagined that when the lochiæ became suppressed, the blood and humors, accumulated during pregnancy, returned into the general venous system, there became corrupted, and were capable of directing themselves towards an organ in which they determined inflammation; at other times, they remained in the uterine veins, there putrefying and generating fever.

Laz. Rivière expresses himself upon this subject as follows: In suppressione lochiorum sanguis, et vitiosi humores qui per gestationis decursum cumulati sunt ad venas majores regurgitant, ibique putrescunt, et interdum ad hepar, lienem, aliasque partes feruntur, in iisque inflam-

mationes concitant. Aut si in venis uteri morantur, putredinem concipiunt, atque ita febrem pariunt, etiam in feminis quæ antea inculcata valetudine frui videbantur. (Opera Medica Universa, p. 408.)

We do not here allude, as is evident, to the blood expelled from its vessels, nor to the humor effused, retained, and afterwards absorbed; but as putrefaction is regarded as the principal cause of the accidents, I have thought proper to make mention of it in this place, rather than in the article which treats of the *suppression of the lochia*.

This opinion of the ancients does not appear to me to merit a serious refutation at the present day. I will limit myself in meeting it to the following passage from the dissertation of Nolte on puerperal fever: Hæc autem veterum opinio in eo vero aliena versatur, quod illi putant suppressionem lochiorum ideo nocivi esse effectus quia sanguis ille, illorum fluxu eliminatus, sit sanguis vitiat, ex retentione catameniorum, durante graviditatis tempore in uteri venis accumulatus; partem enim innocuam ad alendum foetum a natura exhiberi. Sed illum sanguinem, fluxu lochiali excretum, minime esse vitiatæ et nocivæ naturæ, potissimum autem ejusmodi esse conditionis ac ille in reliquis cor-

poris vasis contentus, neminem hodie amplius dubitaturum esse sum persuasus. (J. P. Franck, *Delectus Opusculorum*, &c. p. 52.)

IX. THE MORAL AFFECTIONS.

The moral affections of every kind have for a long time been regarded as prolific causes of puerperal peritonitis. Hoffman ascribes a very great influence to them. According to Delaroche, "the passions and emotions of the mind, particularly those accompanied by fear, are among the most evident causes of peritonitis." (P. 155.) Delamotte cites a striking example of this: "An individual whose wife had been safely delivered," says he, "having on the fifth day after her confinement, ordered his sister to make some preserved apples, the husband, having just entered her chamber, demanded who had made the preserves, and why his own sister had not prepared them? His wife, believing that he was angry, became agitated, and this emotion was followed by a slight chill; afterwards, fever and colic; finally, the suppression of the lochiæ, with oppression. Her abdomen became hard, tense, and painful, and death occurred, notwithstanding all the remedies employed." (P. 1127.)

There are many facts analogous to this; and though the danger of moral affections has been much exaggerated, particularly in hospitals, where it served to explain the great mortality, we must, however, admit that they place females in circumstances peculiarly favorable to the development of peritonitis.

When this disease prevails epidemically, it very often happens that the receipt of bad news, censure more or less merited, the sight of any disgusting object, &c. will be followed by its invasion. *Solam campanæ sonitus quæ moribundis pulsare solet perceptionem puerperis aspectu sanissimis, sed ob plurium jam ex partu matrum obitum perterrefactis, fatalem, febrisque puerperalis mox occasionem fuisse novimus.* (J. P. Franck, *Epitome de curandis hominum morbis*, t. 1, p. 205.) I have several times remarked, at the *Maison d'Accouchement*, that the grief experienced by certain females when their children were taken from them to be placed in the foundling hospital, became in a few hours the cause of peritonitis: and the same thing we sometimes observe in private practice, when the nurse carries to her home the infant, without our being able to discover any other cause than the inquietude of the mother with regard to the welfare of her child,

and the sorrow she experiences on account of the separation which has been deemed necessary. Notwithstanding all this, I repeat, we must not exaggerate the influence of moral affections. These affections are nearly the same at all periods of the year among those women who remain in lying-in institutions; and still there exists a vast difference in the number and severity of peritoneal inflammations at different periods of the same year, and in the different hospitals. A cause, always the same in its attending features, should every where produce the same effects.

X. CLIMATE AND SEASONS.

According to many authors, climate and the seasons have great influence in the development of puerperal peritonitis. "The coldest countries," says Doublet," are those in which delivery is followed by the most fatal consequences. In England, a much greater proportion of women die in child-bed than in France: in Italy, however, there is still less fatality than in France; and the more we advance towards the south, the greater will be the opportunity of confirming this assertion. According to M. Brydone, it is very rare in Sicily for fe-

males to be even slightly indisposed after confinement; and the ingenious author of "Letters on Egypt," M. Savary, has observed that the milky diseases were there unknown." Doctor Salles says that he remained nearly three years in South America, without observing a solitary case of puerperal peritonitis. Was he in a situation to meet with the disease?

It does not appear by any means demonstrated that peritonitis is less frequent in warm countries; and the information upon which the assertion of Doublet is based does not appear sufficiently authentic to merit full confidence. It is contradicted by Nolte, who assures us that puerperal fever is more frequent in warm regions and seasons. *In regionibus et anni tempestatibus calidis sæpius puerperas infestat quam illas sub cœlo et tempestate frigidiori vitam gerentes.* (P. 46.)

It has been recently stated that, in Prussia, the proportion of lying-in women who perish is to those who die in France as one to three. (Hospital Reports, t. 3.) What is the inference from the above remarks, but that we possess no precise means or data for ascertaining the influence of climate in the production of puerperal diseases, and particularly of peritonitis? The same

remark cannot be applied to the seasons; and though Thomas Cooper, and after him White, advance that *puerperal fever is most common, and also more fatal in the hotter months*, (Compend of Midwifery, p. 225,) it appears to me demonstrated by the statistical researches of Delaroche, Tenon, and professor Dugès, that it is in winter and autumn that we most frequently observe inflammations of the peritoneum: in January, March, November, December, according to Delaroche; in December, November, February, January, and April, according to Tenon; in November, October, February, December, and January, according to Dugès. The researches of Delaroche, which embrace many years, were made at Geneva, from the registers of the state; those of Tenon are the result of eleven years practice in the Hotel Dieu, at Paris; and those of Dr. Dugès are deduced from his observations during the years 1819 and 1820, at the Maison d'Accouchement.

In endeavoring to explain why puerperal peritonitis is more frequent in winter and autumn than in the other seasons, the action of cold would naturally be the first cause selected for the explanation of the fact. Observation proves that, in these two seasons, as soon as the temperature falls, the number of pa-

tients is increased. Among observers, some—Delaroche, for example—regard the dry air as most pernicious; others—Tenon, Alph Leroy, Chaussier, and Dr. Dugès—seem to attribute more danger to a humid atmosphere. Without reference to this difference of opinion, I believe that the influence of cold has been much exaggerated. If it were, as is pretended, the most powerful cause of puerperal peritonitis, it should of course follow that this disease would be most frequent during the coldest months: thus, we should never see it more prevalent in May, August, and September, than in December, January, and February. But it has often happened in the lying-in hospital that the number of patients and deaths has been much more considerable in the summer seasons. We may be easily convinced of this fact, by referring to the tables published by Tenon. We will see, for example, that during the year 1778, there were, in the month of June, eleven deaths; in July, five; in August, seven; whilst, in November, there was not one. The number of accouchements in this latter month was, however, more considerable than in the others; and, according to the meteorological observations of Cotte, the temperature was very warm and dry during the latter part of June, and

continued throughout the months of July and August; whilst, in November, if not cold, it was at least extremely damp. Results nearly similar to these were remarked in the years 1776, 1779, and 1785. In a report made in the year 1811 to the general council of the hospitals in Paris, it is stated that in the year 1807, puerperal peritonitis was very common at the Maternité during the summer months, whilst there had scarcely been observed a case during the winter. In 1809, it was most fatal during the month of April. It was not observed in October, November, and December.

In another report, which comprehends the years from 1804 to 1813, it is stated that the mortality was greater, these ten years, during the month of August, than in the months of March, April, May, June, September, &c. If we examine the several years separately, we will find that, in 1805, there were thirteen deaths in the month of July; there were only three in January, one in February, nine in November, and five in December. In 1807, there were thirteen deaths in August, only three in January, one in February, and seven in November. In 1812, in the month of July, there were fifteen, and in the month of August, sixteen deaths; whilst there were but

two in April, nine in February, and ten in January. We could even multiply these facts; and we should find that the mortality was greater during the warm months of the year, than in winter and autumn. (P. 101.)

Of four epidemics of puerperal peritonitis, which Dr. Clet has observed at the general hospital of La Charité, at Lyons, one commenced at the end of May, 1819, and continued till the month of September of the same year; another occurred in the spring and summer of 1821.

Similar observations have been made in England: "A gentleman in whom I have great confidence," says White, "informed me that he attended in a small hospital in London a number of lying-in women. From the end of May to the commencement of July, puerperal fever was very fatal. In the month of June there were twenty deaths; and two women were often placed in the same coffin, in order to prevent the malignity of this disease, which was treated without success." (Clarke, p. 71.)

We need not now be astonished that Thomas Cooper should have considered a warm and humid atmosphere as the most favorable to the development of puerperal fever.

In regarding cold as the principal cause of peritonitis, how shall we explain the following fact? "It is worthy of remark," says White, "that in two hospitals, situated at an equal distance from the centre of the same city, namely, London, founded about the same time, governed by men equally celebrated in their profession, and where nearly the same number of women were delivered, it is worthy of remark, I repeat, that in one the number of deaths is in the proportion of one to thirty-six; and in the other, one to one hundred and thirty." (P. 93.) The temperature of the two establishments scarcely differs: however, the disproportion is too great to be attributed to any slight cause. I shall recur to this again.

If, without reference to the action of cold and dry weather, we adopt the opinion of Dr. Clet and the practitioners already cited, who support the influence of cold or warm humidity, the facts are still irreconcilable. At a period when many cases of accouchement occurred in the Hotel Dieu, at Paris, the mortality was considerable. "At the Hotel Dieu, let us have the courage to avow it," says Tenon, "the mortality among lying-in women is frightful: it

is not in any proportion to what we have just seen ; it is one to fifteen, or nearly so." This mortality was, in great measure, attributed to the humidity of the atmosphere, caused by a neighboring river, and to the frequent washing of the wards. It was in order to remedy this inconvenience, and others which I shall examine farther on, that the lying-in hospital was removed to one of the most salubrious parts of the city. It now occupies an elevated ground, surrounded by extensive gardens : there are but few habitations near it. Individuals of the highest merit have been successively, and are at present placed at the head of the establishment, either in the capacity of accoucheurs or physicians. They have endeavored to arrange every thing in the best possible manner ; and the greatest attention is paid to the food, cleanliness, and comfort of the patients. We should expect to obtain results very different from those which had been remarked at the Hotel Dieu, and yet there is little difference in the mortality. This mortality is still alarming, compared to that of other similar establishments. I just stated that at the Hotel Dieu one in fifteen died. Tenon has made a calculation, comprising a period of ten years,

from the 1st of January, 1776, to the 31st of December, 1786. I have likewise taken, for the *Maison d'Accouchement*, a period of ten years, from the 1st of January, 1814, to the 31st of December, 1824. I have found that, during this period, there died about one in twenty-two. In the sixteen years which preceded, the result was nearly the same in the same institution, as can be seen in the two reports to the general council to which I referred above—one death in twenty-three, from the year 1807 to 1811; one in twenty-two, and a fraction, from 1804 to 1813. If now we take into consideration, that at the present day the small pox attacks comparatively but few lying-in women, whilst, at the period in which Tenon made his observations, it was very fatal; if we recollect that now but one patient occupies a bed, whilst at the *Hotel Dieu* there were two, three, and four placed in the same bed, without reference to the period of their accouchement; if to this be added certain ameliorations in the regimen, in the mode of governing the women, we shall see that but very trifling advantage has been gained by removing the lying-in institution from the borders of the *Seine*, where it was exposed to a cold and humid atmosphere. The diminution in

the mortality will be found still less, if we calculate the number of deaths at the two places for a longer period. Thus the very curious tables, now in possession of M. Deneux, and which undoubtedly he will one day publish, have enabled me to make the following statements: in the space of thirty-one years, 61,647 women were delivered at the Maison d'Accouchement; of this number 2,777 died, which averages one in every twenty-two, and a fraction. During a period of thirty-nine years, that is to say, from 1746 to 1789, omitting the years 1749, 1750, 1751, 1752, and 1753, the result of which is not known, 61,553 women were delivered at the Hotel Dieu. Of these, 2,887 died, or one in every twenty-one, and a fraction.

Can any one who is acquainted with the situation of the Hotel Dieu, and that of the Maison d'Accouchement, attach any credit, after these results, to the danger which has been attributed to a cold and humid atmosphere, particularly when it is stated that at the Maison d'Accouchement there is not that general washing of the wards which was usual at the Hotel Dieu?

The hospital at Copenhagen, where peritonitis is very rare, is situated in fundo non admo-

dum sicco, et in vicinia maris. (Rogert, Societatis Med. hafn. Collectanea, vol. 1, p. 359.)

A cold atmosphere, either dry or humid, cannot, therefore, explain all the circumstances, which accompany the development of puerperal peritonitis: and this is acknowledged by authors who have attributed the greatest influence to it as a cause of this disease. They have been compelled to add to the action of cold the *divinum quid* of Hippocrates—that something which escapes our senses. It is unfortunately probable that there will for ever remain something concealed from us in the development of diseases, and particularly of epidemic diseases. We must not, however, give too much latitude to this idea: for it would prevent us from searching after truth, and would even propagate error. It has just been shown that, in attributing puerperal peritonitis to the action of cold, we have rendered it more frequent, more fatal in proportion to the care and precautions taken in order to protect lying-in women from this pretended cause.

But I must remark that, whilst we contest the pernicious effects which have been attributed to a cold temperature, either dry or humid, it is, however, true, that cold, more or less severe, more or less sudden, more or less general, may

produce peritonitis. Among other examples of this kind, I shall extract the following from the work of Doublet: "In the month of March, 1782, a female gardener, in the neighborhood of the hospital of St. Sulpice, where I performed the duties of physician, had been delivered three days; she did not nurse her child, but every thing went on well. Tempted by the mildness of the atmosphere, which was remarkable for the season, she left her chamber, and seated herself on the ground in the middle of her garden: she took cold, and was seized, in a short time afterwards, with a violent chill. I was not called in until the sixth day after the attack, the ninth after her accouchement, and I found her in the following condition; there was diarrhœa, colic, and nausea: the abdomen was gaseous, pulse frequent and small, countenance livid and bloated, eyes dull, and the visage covered with a clammy sweat. The vegetable emetic appeared to produce some relief: but it was merely momentary; she died on the thirteenth day, after forty-eight hours delirium; her abdomen was as large as if she had been laboring under ascites." (Researches on Puerperal Fever, p. 161.)

I have likewise had occasion to observe in my practice an inflammation of the peritoneum pro-

duced by cold. Madame, the marchioness of B***, was naturally delivered of her first child, 5th of July, 1828, at four o'clock in the morning, after a labor of about four hours. On account of the intense heat of the season, she was covered, during the day, with nothing but a folded sheet. The temperature of the air having been considerably cooled by a shower, her attendant was so imprudent as not to employ additional covering. Madame *** slept at six o'clock in the evening, and was quite comfortable; she awoke at midnight, stating that she was cold; she was immediately furnished with other covering: but the evil was done. Pain, and all the symptoms of peritonitis, were immediately manifested: I shall give the history of this case in a subsequent chapter.

The sojourn of women after delivery in wards in which there is a low temperature, should be regarded as a predisposing cause of peritonitis, on account of the facility with which the body is chilled, and perspiration suppressed. Peritonitis will be still more likely to occur, if, from want of attention on the part of the attendants or otherwise, the patients leave their bed, and walk bare-footed on the floor: or even after having put on their shoes, they go, without stockings

and but half covered, to the privy, more or less distant, and always colder than the wards. I should likewise mention the use of cold drinks, and of linen that is either cold or damp.

A local chill, and especially when occurring in the parts of generation during labor, has been noticed by Ludwig, and particularly by Franck, as giving rise to peritonitis. I do not know of any fact, which positively confirms this assertion; however, I believe it well founded, and it does not appear to be sufficiently appreciated in a certain hospital in which, for the purpose of instructing the students, all the women in every season are uncovered during their accouchement. These unfortunate persons remain sometimes for many hours on the *lit de misère*, having the inferior portion of the abdomen, the vulve, breech, and thighs exposed to the influence of the atmosphere. Besides the indecency of this position, even before the *sages-femmes*, we do not attain the object proposed; for the students, not enjoying the privilege in their private practice of inspecting the parts, are embarrassed and at a loss how to act, and the patients themselves, by this exposure, are liable to attacks of peritonitis.

It is proper to remark, in terminating this article, that we must not always refer the disease

to the action of cold, even when it is felt. The inflammation of the peritoneum is almost always announced by a chill; and if we do not pay attention to this fact, we may frequently be led to consider, as the cause of the disease, that which is nothing more than the first symptom.

IX. CHANGE OF THE ATMOSPHERE.

The impurity of the atmosphere, whether owing to a want of proper ventilation, or to there being too many individuals in the same place, appears to me to have been the most active cause of a large number of epidemic peritoneal inflammations. Peu is the first author who has mentioned this cause. He expresses himself as follows: "A learned physician, M. Vesou, told me that, in the year 1664, he was sent for by M. de Lamoignon, first president of the parliament of Paris, and consequently first director of the Hotel Dieu of that city. He desired to know the cause of the great mortality among the lying-in women of the above hospital. It was suspected, or at least feared, that it arose from negligence on the part of the persons in charge of the institution. The mortality was observed to be greatest in certain periods and seasons. The difficulty

was soon explained. The physician above alluded to, opened several of these unfortunate women, and they were found filled with abscesses. He examined with great care into the cause of this, which in fine he attributed to the disadvantageous situation of the place, or rather of the ward of these females, which was immediately above that of persons suffering from wounds; so that the infectious vapors which arose from the sores and ulcers of these wounded bodies, generated an impure and malignant atmosphere. This atmosphere, continually ascending, was respired day and night by the lying-in women; they were affected with a sanguineous flux, which continued until their death. The deaths among the women were in proportion to the number of wounded in the lower wards. The warm and humid atmosphere, or cold and humid, was incomparably more injurious than the warm and dry, or the cold and dry, during which the vapors did not make so strong an impression either on the air or the patients. In a word, this great mortality did not occur when the females were in a ward below the others: so that all these circumstances conspired to convince this learned individual that, in order to obviate the evil, it would be necessary, if pos-

sible, to place the lying-in women in a particular spot where they would be exempt from the communication of an air so contagious." (Practice of Midwifery, p. 268.)

The impurity of the atmosphere, mentioned since by Willis, Johnson, Th. Cooper, Doublet, Tenon, &c. has been especially examined by White.

No one will doubt the serious inconveniences of crowded wards. It is the congregating together of a number of individuals in the same place, that has given rise to every species of typhus, hospital, jail fever, &c.

A collection of women recently delivered, is still more pernicious than that of other individuals under ordinary circumstances. An additional cause, not usually taken into consideration, is found in the number of their children, who infect the purity of the air by their respiration and excretions. The lochial evacuation and abundant perspiration, likewise evolve injurious vapors. If we add to this that the windows and doors are carefully kept shut, under the apprehension of cold and humidity, we shall have some idea of the insalubrity of an air continually changed by the respiration of so great a number

of individuals—by exhalations more or less infectious from the lochiæ, perspiration, fecal matter, &c.; and notwithstanding this, no attempt is made to preserve the purity of the atmosphere.

Consult, likewise, the history of the different institutions consecrated to a large number of lying-in women, and it will be seen that the mortality augments with the number of confinements in a proportion far superior to the number itself. In some hospitals, where but few women died, when a small number only were admitted, there has since **been** great mortality, owing to the number of lying-in women having been considerably increased. Peritonitis has prevailed there as an epidemic, whereas before there had scarcely been a case observed. We shall have ample proof of this by recurring to the history of the hospitals of Vienna, Moscow, &c. This increase in the mortality in the above cases, appears to me to be owing to the fact that ten beds were placed in a chamber in which formerly there were not more than five or six. White, in speaking of the extreme difference, to which I have already alluded, in the mortality of two lying-in institutions, in London, writes as follows: "This hospital," alluding to that in which the success is greatest, "is situated near the open fields; there is no very

particular attention paid to the regimen of the patients, but there are never more than four in the same chamber, and ordinarily the number does not exceed two. It is to the open air, and the small number in each apartment, that we are to attribute the great success.

“In the other hospital, there are eighteen or twenty in the same chamber, whilst there should not be more than eight.” (P. 394.)

“Since White, Tenon has written with considerable spirit respecting the insalubrity of the air in the lying-in wards at the Hotel Dieu in Paris. In speaking of the beds used for the delivery of the women, he says, “they are the sources of the most noxious vapors, extending themselves and pervading every part of the wards, and affecting the visitors with a disgust which is insupportable.

“It is thus that the filth of the ward and beds, the promiscuous intercourse of the sick with the healthy, corrupt the air; once vitiated, it reacts upon those who have been the cause of its infection; and as the ward of the women already delivered is only separated from that in which the pregnant females are placed, by an open door, the air, in passing from the first to the second, carries with it its infection, and thus acts upon those who are about to be confined. What an arrangement for so important an operation!

“The pregnant females, and those who have already been delivered, are night and day exposed to this corrupted atmosphere; it penetrates their lungs, and mingles with their food; it affects their sense of smelling, and makes a strong impression upon the cutaneous system; in short, they breathe an atmosphere surcharged with the most vitiating elements.

“By an inconceivable regulation, these wards are the lowest of all those in the Hotel Dieu, and even of any of the hospitals in Paris: they measure but ten feet four inches from the floor to the ceiling; which is very extraordinary, if we take into consideration the great number of individuals they contain.

“We must also recollect that at the Hotel Dieu, the linen used for the lochial evacuation, placed in a closet at the extremity of the ward, contains and propagates corruption.” (Memoir on the Hospitals of Paris, p. 238.)

After the enumeration of the causes of insalubrity, which existed at the Hotel Dieu, I shall now advert to the manner in which things are conducted at the present day in the Maison d'Accouchement. The comparison may lead to results of the highest importance.

In transferring the wards of lying-in women to the faubourg St. Jacques, it no doubt was

imagined that, in order to diminish the mortality, it would suffice to remove these wards from the Seine, where they would not be placed above others, inhabited by the sick, and particularly by the wounded.

The females who have been delivered at the *Maison d'Accouchement*, are now placed in two double ranges of cells occupying the first and second stories, the one range exposed to the south, and looking out upon an extensive garden; the other to the north, and facing a court planted with trees. The lower story contains the kitchen, a small bathing-house, the hall of pharmacy, and amphitheatre; and in the upper part of the building is a dormitory, occupied by pregnant females. The cells are separated from each other, laterally, by a plaster partition, and in front by a large corridor, from which they are excluded by a curtain. They are about seven or eight feet in width; their height from eight to nine; and their depth something more than six feet and a half. Each cell has a window so constructed, that it cannot be opened without the air falling directly upon the bed; and consequently it is almost always kept closed, for fear of exposing the patients. There is ordinarily but one female in a cell, either with or without her child. Sometimes want of room renders it

necessary to place two females, with one or two children, in a cell. One of the extremities of the corridor opens by a glass door upon a wide stair-case. On one side of this door is situated the privy; on the other, a closet similar to that of which Tenon speaks, in which the linen employed in the lochial evacuation is deposited. At the other extremity of the corridor there is a large window fronting a garden; it communicates, laterally, with a lower ward, in which there are a number of beds, destined for convalescents.

We see that, with many causes of insalubrity, the purifying of the air is difficult, almost impossible, when all the cells are occupied; and still it is then that it is most important to have the air changed. It has been remarked that epidemic peritonitis is not so frequently produced by cold and humidity,^s as by the collection of a large number of females in the same apartment. The cause of the error into which practitioners have fallen in this respect, appears to me to be that, in general, the greatest number of accouchements occur in winter and autumn; thus the patients remain for a much longer time in the institution, whence there necessarily results a crowded state of the wards. There are, however, instances in which peritonitis has prevailed with great violence during very

warm weather, though the number of accouchements was less than at another period in which there had been but few cases of the disease observed. But it is likewise true, that during the summer season, in order to repair and cleanse the institution, the number of the wards destined to receive the pregnant females, and those who have been delivered, is, for a certain period, diminished. The wards in which the repairs are going on are closed; so that, though in appearance there is less crowding at this season, there is in reality more.

In the hospital of Venice, peritonitis prevails rarely in the spring and summer; but it often exists epidemically in autumn and winter, because, during these seasons, the wards cannot be so conveniently aired; and, as the windows are considerably elevated above the floor, it follows that that portion of air which is below them cannot be renewed. (Jæger.)

So far facts seem in every respect to accord with the opinion which I adopt with regard to the most frequent cause of puerperal peritonitis. I hope I may now be permitted to add a few reflections.

A vitiated atmosphere is injurious, not only after accouchement, but even during pregnancy;

it may influence the solids and fluids of the female to such a degree, that peritonitis will be inevitable. I have stated that, according to Tenon, impure air was extremely fatal among the pregnant women at the Hotel Dieu. It is not less pernicious at the Maison d'Accouchement. The women, during their pregnancy, are frequently crowded in dormitories, placed for the most part above the wards of those who have been delivered, or over the refectories. The little attention paid to these dormitories, renders the air less pure than elsewhere. Many of these women are assembled, during the day, in a place known by the name of the work-house, where they are occupied in some light employment; but they respire an infected air, from the fact of their being so much crowded. They imbibe there, it seems to me, a predisposition to peritonitis. It would be very easy, by well-directed researches, to assure ourselves of the influence of this cause. It would be necessary to know if, among those who become sick, there is found a majority who have remained a greater or less time in the institution, and particularly who have been employed in the work-house. I am not myself at present in a situation to make these researches, which did not occur to

me previously. I recollect that, in the year 1825, during a fatal epidemic, five or six pregnant females had been particularly recommended to the head *sage-femme*. They were placed by particular favor in the wards of such as had been delivered and were now convalescent, and who were already very much crowded. They were all affected with peritonitis, which proved fatal.

It may, indeed it does happen that, among the women who enter the institution, when labor has already commenced, there are some who bring with them a predisposition similar to that of which I have just spoken. Many of these females reside in narrow, low apartments, where frequently there are found several together, particularly during the night. The doors and windows are closed: it follows, therefore, that the air is soon vitiated, and its respiration proves injurious. The following passage from White is very applicable to Paris, though he intended it for London and Manchester: "Those females who reside on ground floors respire an air still more injurious, on account of the great humidity, because they have not clean linen, and in general they are plunged in the greatest possible filth. Those who lodge in garrets are not better situated; for they receive the putrid mias-

mata exhaled from the different families inhabiting the lower part of the house. Moreover, they have, perhaps, to suffer from the exhalations of an entire family, who inhabit but one apartment, and the putridity of these exhalations is augmented by the heat of the sun, which penetrates the roof." (P. 192.)

We sometimes meet, in private practice, with cases of peritonitis analogous to those which prevail epidemically in hospitals. Though the circumstances in which the females are placed differ widely in appearance, as regards the purity of the air, still the result may be the same. Living in a small apartment, in which several persons may be crowded together; sleeping in an alcove, or with closed curtains; and the habit which many persons have of putting their head under cover, are all circumstances which may produce in the air we respire an alteration similar to that which vitiates the atmosphere in hospitals. Is not the want of exercise, so generally regarded as injurious during pregnancy, and as exerting a fatal influence over labor and its consequences, more to be feared, on account of remaining in an atmosphere which is not renewed, and continually the same, than on account of any deficiency of muscular contraction?

The bad effects of crowding are relative ; that is, in order to produce them, it is not necessary that a great number of individuals should be collected together ; whilst, on the other hand, a considerable number of persons may reside in the same apartment, without producing any inconvenience. Thus, for example, twenty, forty, a hundred patients may be received into one ward with impunity—without the air being so vitiated as to generate disease ; while in another place, twelve, ten, or eight persons will promptly infect the atmosphere, and they themselves be reciprocally infected, provided they remain for a certain length of time. The difference is owing to the dimensions of the respective wards.

To produce noxious effects, the vitiation of the atmosphere must arrive at a certain degree, and this degree will vary for every individual. As was just stated, twenty persons may continue in a ward, without ever vitiating the air, so that it would become injurious in a sensible manner. A change, however, does take place. Suppose now the number be increased only by one ; the change in the air may then be sufficient to prove injurious to one or more of them. If, instead of one, two be admitted, it will be still worse—and thus the bad effects will increase in proportion to the num-

ber added. Among these persons—according to their individual dispositions—some will be incommoded sooner, others later. A few may be found who will not be in the least affected.

It is by attending to these facts that, in many cases, we may explain the particular circumstances which favor the development of puerperal peritonitis. Thus we will easily comprehend why it is more common—more fatal in certain seasons, than in others, although the females are treated in the same manner, and with the same care; why, of several women in the same ward, and who were placed precisely in the same circumstances, there are some affected with the disease, whilst others escape, &c.

White asks why the infected air in the hospitals destined for lying-in women does not affect them before, as well as after labor: "This somewhat resembles," says he, "what occurs in hospitals poorly ventilated, in which those patients who have large abscesses; tumors in their articulations, and other similar affections, are frequently exempt from every species of fever until the abscesses are opened and the limbs amputated, when they are promptly seized with putrid fevers, which soon terminate fatally. Both circumstances are probably due to the same imme-

diate cause, namely, to the introduction of the corrupted air in the evacuated matter, which is already either putrid, or on the point of passing into this state, by contact with the atmosphere; in which case the putrid matter is quickly absorbed by the lymphatic vessels, which are actually open to receive it." (P. 403.)

There is certainly some truth in the comparison and explanation given by White. This will appear particularly probable, if it be recollected that, as has already been remarked, the interior surface of the uterus, after the separation of the placenta, is, as it were, ulcerated, and that the contact of the air, though difficult, is, however, not impossible. I have to add several reflections to those advanced by White. I shall commence by stating that women, during their pregnancy, are sometimes affected with peritonitis in every respect similar to that which occurs after an accouchement. I will likewise remark, that it is principally through the respiratory organs that the miasmata are introduced into the system. Now it is very certain that when a female has arrived at the latter period of her pregnancy, less air passes into her lungs than when she is delivered; and, although the movements of inspiration and expiration are somewhat more frequent, I be-

lieve there is not an entire compensation, and that during pregnancy the respiration is less considerable than under ordinary circumstances. *Accedit volumine abdominis inferi per id tempus insigniter ampliato pectus angustari, oxidationem sanguinis impediri eo magis quo plus oxygenis foetus matri detrahit.* (Sprengle, *Instit. Med.* t. 2, p. 331.) According to this, the female absorbs less of the miasmata. But we must take into consideration the shock imparted to the general economy by labor—the debility produced by the pains, and by the loss of a greater or less quantity of blood—the changes effected in the circulation and respiration. The following is my explanation :

An individual is placed in the midst of causes more or less deleterious, which tend to derange the natural exercise of all the functions—the health—and even cause the destruction of life. Between these causes, and the health or life of the individual, a kind of antagonism, proportioned to the intensity of the one and the resistance of the other, is established. If the deleterious causes predominate, the disease manifests itself, and perhaps death will be the consequence. In the contrary case, the health is unaffected; but if the health should be accidentally deranged, or

debilitated, it will happen that these causes, hitherto innocuous, assume a power precisely in proportion as their antagonist, the general health, is weakened. Hence results disease more or less dangerous. Labor appears to me to be the cause which, by occasioning a disorder in the functions, frequently accelerates the action of deleterious miasmata.

I shall now abandon this explanation for what it is worth. A crowded apartment becomes the source of dangerous diseases : this fact we should appreciate, and not lose sight of. My explanation of it has just been given ; another, perhaps, may explain it differently. It will matter but little, for the fact is always the same.

It is evident that I attribute great influence to the impurity of the air, to its vitiation by a crowded state of the wards. I am far, however, from pretending that this is the only cause which can produce puerperal peritonitis, even epidemic. Its presence does not appear to me demonstrated in all the epidemics which have been described ; which, however, may be owing to some neglect in the records. Delamotte holds the following language on this subject : “ Of all the authors upon Obstetrics, I do not know one who has remarked that, in certain seasons, death

was produced by any other cause than the deleterious influence of the atmosphere;—not even among those who possessed robust constitutions, and had enjoyed good health during the entire period of their pregnancy. Many died of another disease, in 1678, which was my first year at the Hotel Dieu; but in our province of Normandy, principally at Rouen and Caen, in the year 1713, females who, after having been safely delivered, were, after three, four, and even seven and eight days, attacked with slight fever, which soon increased, attended with diarrhœa, suppression of the lochia, tension and pain in the abdomen, and finally delirium. Regimen, and the different medicines employed, were so inefficacious, that nearly all the females died, without the disease affecting any but such as had been recently delivered." (Treatise on Midwifery, &c. p. 719.)

Delamotte evidently alludes to the insalubrity of the air; but he does not say whence it is derived, or in what it consists; neither does he speak of its temperature or hygrometrical state. The disease prevailed in separate habitations: it is not probable there were in these habitations more people than usual. Perhaps there was something in the atmosphere, which

obliged them to be more particularly shut up; perhaps, also, there prevailed certain winds which, charged with deleterious miasmata, vitiated the air, so that it became injurious to those persons only whose health had been accidentally deranged and weakened, and consequently it affected those who had just been delivered. It will be understood that this is nothing more than conjecture; and I make the supposition in order to show that the epidemic mentioned by Delamotte does not prove any thing against the effects of crowded apartments, and of the vitiated atmosphere which results from them.

This observation will likewise apply to the epidemic which prevailed at Crèteil, near Paris, during the spring of 1799, the details of which were given by Dr. Lafisse, in the *General Journal of Medicine*, t. 7, p. 413. When the commissioners from the Medical Society visited this place, they were informed that, within a month, five women had been confined, and that with but one exception, all had died with their children. The same accidents had occurred to all the females. It was, say the commissioners, a malignant puerperal fever. The village of Crèteil does not present any cause of local insalubrity. It is exposed to the north and south winds.

But the winter had been long and severe; the intense cold, the calamities it frequently occasions, and the humidity induced by the thaws, had no doubt acted in a very unfavorable manner on the solids and fluids of the women, who were rendered still more susceptible of external impression by their state of pregnancy. The alarm was universal: all the females imagined that death was inevitable. Certain precautions, encouraging language, promises of speedy relief, and especially the return of fine weather, put an end to the development of the disease. In addition to the causes mentioned by Lafisse, may we not remark, that the severe and cold weather, by forcing the pregnant females to remain at home, caused them to continue in an impure air, which was the more easily vitiated, as the country houses are generally contracted, the chambers occupied by several individuals, and so disposed, that it is with the greatest possible difficulty they can be ventilated?

When a great number of women who have been recently confined, are assembled together in the same apartment, we see peritonitis declare itself under the influence of the slightest causes, and frequently it is not without difficulty

that we are enabled to discover these causes. Thus, one female will imagine that she is sick because she has taken a cup of ptisan that was not sufficiently warm; another supposes she has taken cold when urinating, or when taking an injection; a third refers her disease to a broth, which, she says, sits heavy upon her stomach, &c. It is almost always after such *serious* circumstances as these that a disease declares itself, and may prove fatal in one, two, three, or four days: and frequently the first symptoms of this disease do not manifest themselves for twelve, fifteen, or more hours after the action of the presumed cause. The consideration which such causes merit is very evident; it may be observed that, in many cases, as futile as they are, we cannot even recognize them. Aliquando subito absque prægressis causis evidentibus, ab hoc morbo invaduntur sanissimæ pridem mulieres. (Nolte, p. 56.)

It will be readily admitted that, in the midst of a vitiated atmosphere, causes which, in particular places, would scarcely occasion the slightest indisposition, will determine a very dangerous peritonitis. Thus, for example, we will suppose that, under ordinary circumstances, the use of cold and damp linen will prove injurious to two

women in six; with the predisposition induced by the insalubrity of the air, the six will become sick. When peritonitis proved fatal to a great number of women at the Hotel Dieu, doctor Herau discovered that the infirmarians employed linen which was not perfectly dry, for the women recently delivered; hence nearly all were attacked by sickness.

It now remains for me to examine in what consists the vitiation of the atmosphere, under the influence of which puerperal peritonitis is developed. The solution of this question would, no doubt, be of great importance; but science has yet to discover much upon this subject.

The deleterious miasmata or particles which float in the air, have been hitherto inaccessible to our senses; they are only known to us by their effects. It is well demonstrated that the vitiation of the air by a number of individuals does not consist merely in the diminution of its quantity of oxygen, the increase consequently of its proportion of nitrogen, and carbonic acid; there is yet something more than this, and this something has been by convention termed miasmata. The existence of these miasmata, as I have just stated, is revealed to us only by their effects. Are there any circumstances, which increase or diminish

their activity when developed, in considering them independently of their causes? This appears to me to be beyond all doubt. What are these circumstances? They may perhaps be traced to the atmosphere, to its specific gravity, its temperature, its hygrometrical and electrical states. The examination of these different questions is not connected with the history of peritonitis. The subject is otherwise so much involved in obscurity, that perhaps I would only add to its difficulty. I will here briefly allude to contagion.

It is well known that contagion is active only in epidemic peritonitis. The difficulty, in general, experienced in distinguishing the epidemic character from the contagious is not less in puerperal peritonitis than in any other disease. I am of opinion that in the present state of science, it is not possible to remove the uncertainty which prevails in this particular. I must, however, admit that, notwithstanding the assertion of several distinguished English physicians, Joseph and John Clarke, for example, I adhere strongly to the opinion of the non-contagionists. My observations upon this point are in perfect accordance with those of professor Dugès, and I cannot better express them than by transcribing the

following passage from his memoir : " We have observed very repeatedly pregnant women remain in the infirmary, surrounded by persons affected with peritonitis, without ever taking it ; we have still more frequently remarked females recently delivered come to the infirmary laboring under some disease, and yet not contract the prevailing affection, though they were surrounded by the miasmata ; and if there were some exceptions, it is easy and natural to explain them by an infection very different from the contagion of diseases arising from virulent miasmata.

" Never did it occur that a *sage-femme*, having the care of two females at the same time, was the agent in transmitting peritoneal inflammation from the diseased to the healthy woman, as is said to have been the case in London ; and never was this inflammation propagated from one to another in the wards destined for those females who were in good health." (P. 179.)

These facts may certainly be opposed to such as have been advanced in favor of contagion. However, they do not destroy them ; and it would be presumption, at the present day, to affirm that physiologists have considered, as the result of a contagious principle, that which was nothing more than the effect of chance. Still I have my doubts ;

and, for the present, following the general rule dictated by prudence in all similar cases, I shall act as if I considered the disease contagious.

XII. EMBARRAS GASTRIQUE.

Before terminating the article on Etiology, I must advert to a cause mentioned by Rivière, Sennert, Ermerins, Millar, Manning, Butter, Stoll, Vogel, Lentin, Doulcet, &c. &c. I allude to the presence of impure matter in the *prima viæ*, colluvies, *imprimis putrida*, in *primis viis hærens*.

Notwithstanding the arguments advanced by Nolte, the action of this cause does not appear to me to be clearly established. It certainly does sometimes happen that there exists, at the commencement of the disease, an *embarras gastrique*. This fact was observed in the epidemic at the Hotel Dieu, in 1782. It is true, also, that an emetic, by causing the *embarras gastrique* to cease, prevents the development or arrests the progress of peritonitis. This result has repeatedly been obtained from the use of ipecacuanha. But this does not prove that the matter contained in the intestines was the cause of the disease. The *embarras gastrique* depends upon a parti-

cular state of the digestive organs, and perhaps of the entire organism. It may complicate peritonitis, without on this account being the cause of it. At most, it may be regarded as a predisposition.

In recurring to all that has been said on the Etiology of puerperal peritonitis, we remark :

1. That we cannot deny the changes effected in the humors of the female after conception ; that these changes must not be regarded as depending on the presence of the milk, nor as capable of generating peritonitis :

2. That sanguineous plethora, so common in pregnant women, does not merit much importance, considered as a cause of peritoneal inflammation after accouchement :

3. That the compression and distention of the peritoneum, are not to be regarded as causes of peritoneal inflammation ; that its distention can at most only render it more accessible to the action of the morbid causes, and impart greater danger to the disease :

4. That severe pregnancies do not more dispose to peritonitis than those exempt from every species of accident :

5. That when, at the moment of accouchement, the woman is attacked by an acute or

chronic disease, we frequently see this disease complicated with peritonitis :

6. That inflammation of the peritoneum may occur after a labor the most prompt and easy, equally well as after one which has proved the most tedious and severe :

7. That the introduction of the hand or instruments in order to terminate the labor,—violence done to the uterus or the abdominal parietes, sometimes give rise to this phlegmasia, which is inevitable after the Cæsarean operation, and the rupture of the uterus ;

8. That a dead child remaining in the uterus disposes the woman to peritonitis ;

9. That great losses of blood, and the means necessary to arrest them, sometimes become causes of peritoneal inflammation :

10. That the same may be said of indiscretion in diet during pregnancy, during and after labor :

11. That the suppression of the lochiæ and milk, is more frequently the effect than the cause of peritonitis, and that their metastasis is by no means demonstrated :

12. That constipation, retention of urine, putrefaction of a part of the placenta, and of clots of blood which have remained in the uterus, may generate peritonitis :

13. That the moral affections of every kind, particularly those accompanied by fear, though their effects have been much exaggerated, may occasion peritonitis :

14. That cold climates and seasons predispose to this disease ; and that, without attributing to cold air, whether dry or humid, all the influence which has been ascribed to it, we must admit that a partial or general chilling (*refroidissement*) of the body has been frequently followed by peritoneal inflammation :

15. That the alteration of the air, its vitiation by deleterious miasmata in greater or less abundance, is the most frequent cause of puerperal peritonitis in hospitals in which it prevails epidemically :

16. That facts appear rather against, than in favor of, its contagious character ; that, however, the present state of science authorises doubt upon this point :

17. That the existence of putrid matter in the primæ viæ, has no very evident influence in the production of puerperal peritonitis.

SYMPTOMATOLOGY.

Puerperal peritonitis may declare itself during the operation of labor,—immediately, or a few hours after delivery,—at the end of one, two, or more days. It manifests itself most frequently from the second to the fifth day after confinement. It may occur later; I do not, however, admit with Doublet and Pinel, that it can attack a female, who nurses her child, after the expiration of a year. This opinion, which has exposed the partizans of milky metastasis to ridicule, does not appear to me admissible. There is no doubt that a nurse may be affected with peritonitis a year after delivery; but then the disease no longer merits the epithet *puerperal*; it enters into the class of peritoneal inflammations which occur at any other period of life, in the male as well as in the female sex. After the lochial evacuation has been naturally arrested,—the abdominal viscera resumed their natural state,—the peritoneum and abdominal parietes deprived of the excess of volume which they acquired during pregnancy,—the uterus and its annexæ recovered their usual condition—which ordinarily occurs in the space of thir-

ty or forty days—peritonitis which may then occur, should not in my opinion be called puerperal.

The disease usually declares itself by a chill, sometimes slight, and of short duration, confined to the feet and legs; at other times it is of extreme violence, and extends over the whole body, which is agitated by a severe and continued trembling. This chill may recur frequently, and at intervals of several hours. It rarely fails, and yet John Clarke assures us that, in the epidemic which he describes, he scarcely observed a case in which the disease commenced with a chill. Whether the chill declares itself or not, the woman experiences a lassitude in her limbs; there is agitation; sometimes complete indifference for that which, under ordinary circumstances, most interests her, and principally for her child.

After these precursory phenomena, an unusual heat is manifested, sometimes dry and burning, sometimes accompanied by perspiration; there is cephalalgia and thirst; the pulse is frequent; pain is felt in the abdomen. The pain, at first confined to the hypogastrium—to one of the inguinal regions—afterwards extends to the loins, which at other times is its primitive seat; it soon reaches the abdominal

cavity, which it sometimes pervades throughout. This pain is constant, accompanied by an increase variable in its frequency, duration, and violence, often causing most excruciating cries. The patient cannot lie except on her back; the slightest motion of the body, the gentlest pressure on the abdomen, produce this increase in the pain. It is soon followed by a swelling of the abdomen, which in its development follows the course of the pain, by limiting itself to the points which are painful, and being accompanied by tension and inflation. Thus, it sometimes happens that the abdomen is very tender and painful on pressure in one of the iliac regions, without being so on the opposite side, or as far as the umbilicus, whilst there is nothing similar observed above this point. At other times, the whole extent of the bas-ventre is the seat of pain, swelling, and tension; this part presents a greater volume than before labor. The pulse becomes more and more frequent; the respiration is accelerated; the pulsations in the jugular veins announce the difficulty the blood experiences in traversing the lungs, a difficulty occasioned by the limited inspiration, which admits of but slight development in the cells, and consequently in the pulmonary vessels.

The thirst increases ; the tongue, at first soft, humid, clean, or covered with a coat more or less thick, sometimes so considerable as to receive an impression from the teeth, soon becomes red, principally on its borders, dries and recoils as it were upon itself. The features indicate great suffering ; they are drawn upwards and carried towards the forehead, which is what is meant by the *face grippé*. Every increase in the pains renders this alteration in the features more distinct. Constipation sometimes exists, at other times diarrhœa is observed. The lochiæ diminish in quantity, and become more serous ; at times they scarcely experience any sensible derangement in their course, and again it happens that they are suppressed altogether. If the secretion of milk has not already commenced, ordinarily it does not take place ; if it should have commenced, it frequently continues, but in small quantity ; its duration is less than usual : the breasts fall, become wrinkled, and shrink. On other occasions, this function is scarcely deranged. The urine is in small quantity, and of a deep color ; its emission is often accompanied by heat in the vulve, and almost always by pain in the hypogastrium ; which is easily explained by the displacement caused in the inflamed parts,

by the sudden evacuation of the bladder ; it deposits a whitish mucous sediment.

The suffering is continual ; there is not a moment's repose ; the pulse becomes small and more frequent ; the volume and tension of the abdomen augment ; the respiration is shorter and more difficult. After a certain period, there is often observed a great diminution in the violence of the pains ; the patient feels more comfortable than she has done since the invasion of the disease ; but her cough, and the vomiting of matter at first yellow, then green, begin to fatigue her by their frequency ; a clammy, viscous, cold sweat suffuses the forehead, face, and upper part of the thorax ; there is at intervals absence of mind, slight delirium ; the extremities of the limbs and likewise the nose become cold, and assume a bluish, livid color ; the features are more and more changed ; the pulse is scarcely perceptible, and its frequency is such that we can no longer count the beats ; death closes the scene, when the patient has only a few moments before lost the use of her intellectual faculties. I shall never forget the agonizing spectacle which I once witnessed in a case of this kind.

Madame, the baroness of V*** D***, a young lady remarkable for her beauty, wit, and amia-

bility of character, had an attack of peritonitis after her second confinement, which had been prompt and easy. The disease resisted an energetic antiphlogistic treatment, which was soon followed by the internal use of calomel, together with mercurial frictions. These frictions were made by the husband, who attended to them with all the care which the desire of saving his wife, whom he adored, could inspire. Already the extreme frequency in the pulse, the coldness of the extremities, the difficulty in respiration, the alteration in the features, a cold, clammy sweat covering the face, announced her approaching end. At eleven o'clock in the evening I visited my patient for the last time. She addressed several rational questions to me, and of a sudden exclaimed: "Do not remove the candle, do not take it away; mamma, mamma, I cannot see." Her mother, who was present, had scarcely time to approach the bed, and speak to her; she repeated, "I cannot see, I cannot see;". . . and expired.

Puerperal peritonitis, when it occasions death, does not always terminate so promptly. It may happen that the disease is confined to a small portion of the peritoneum; then the pain, swelling, and tension do not occupy the entire abdomen;

the fever is less violent; the thirst, anxiety, alteration of the features, and in a word, all the symptoms above mentioned, have less intensity. After a variable duration of the disease, there is some amendment; the pain is less acute; the fever, tension, and swelling diminish. However, the patient experiences every day, usually in the evening, a slight chill; followed by an increase of fever, which continues for a greater or less period. The strength fails, emaciation progresses; there is little or no sleep; no real appetite; the abdomen continues in the same state; from time to time there is vomiting; hectic fever, accompanied by sweats and diarrhœa, conducts the patient gradually to the tomb. At other times, after an amendment of all the symptoms, the accidents re-appear, the abdomen assumes a greater volume, the fluctuation becomes quite distinct, particularly towards some particular point; more frequently the umbilicus assumes a red and ulcerated appearance, followed by an aperture, from which a liquid more or less copious flows. The suppuration which is established is soon followed by marasmus and death, either on account of its abundance, or absorption.

We sometimes observe that, after an indefinite period, the evacuation of fluid ceases, a cicatrization is effected, and the health perfectly re-established. We find in authors many examples of a similar termination.

“A woman living at the college of Narbonne, in the rue de la Harpe, was delivered the 25th of July, 1789, after having been, for ten or twelve days, a prey to the greatest uneasiness, and particularly after having experienced considerable alarm the 14th of July, on learning that her husband was in the vicinity of the Bastile at the time that this fortress was under siege. The phenomena consequent on confinement were altogether irregular; the milk did not ascend to the breasts, and she experienced several alarming symptoms, for which ipecacuanah was administered. Having received no benefit, I was called in on the sixth day. I found her with high fever; but the pulse was more corded and frequent than strong; the respiration was difficult; the face red, and the abdomen considerably tumefied; the skin was dry, the mammæ flaccid, and the patient had not slept for several days. The tumefaction was more remarkable on the left than the right side, and the slightest pressure produced the most intense suffering. The mouth

was fetid, and the tongue covered with a white and yellow mucus. The first emetic not being followed by any sensible effect, I prescribed another, composed of a grain of stibiated tartar, with twenty grains of ipecacuanha, and ordered the patient to drink freely, in order that frequent vomiting might be produced. The effect of the second emetic was considerable, as well on account of the action it excited, as the evacuations it occasioned. The pain and anxiety of the patient were much diminished by it; she now became more calm. I rendered the drinks soothing and laxative, and ordered emollient herbs to be placed on the bas-ventre. On the following days, small quantities of kermes mineral were administered. The state of the patient was very irregular; but I found that she never seemed so much benefited as when she vomited, or at least when she attempted to vomit, which was occasioned by the repeated doses of the kermes. The tumefaction and sensibility of the abdomen gradually diminished, and at the end of fifteen days, the patient was in a state fit for purging. In the course of the third week, she became convalescent; but the convalescence did not appear to be well established. The abdomen was more elevated than natural at the hypogastric region; the pulse, without being fe-

brile, was constantly irritated, and the appetite was more capricious than real. The patient was placed on the use of herb teas, which were rendered aperient by the addition of epsom salts. The elevation of the abdomen soon became more sensible between the umbilicus and the crest of the ilium, on the right side, and the patient complained of acute internal pain at this point; the tumefaction and pain in the abdomen increased on the following days, notwithstanding the hip-baths, cataplasms, and every remedy that was indicated, either for the purpose of calming the pain, or of diverting the flow of milky humor from the diseased part. At the close of the fifth week, the tumor was very large; there was a fretful fever; it was now evident that resolution was impossible, and all the remedies were employed to cause it to open externally. The heat and fluctuation alone indicated the maturity of the abscess. M. Desault, who was called in at this period, was about opening it, when it burst spontaneously—a great quantity of milky and purulent matter escaped, and in three weeks the opening was closed. The fever soon disappeared, but milky sweats followed and continued for some time. Bitters and purgatives were the

last remedies given to the patient." (Doublet, p. 321.)

The same author cites, at page 226, an observation which was sent him by Verdier Duclos, de Ferté Bernard, in which it is stated that the effused matter passed into the cavity of the intestines. The patient recovered. In the ancient *Journal of Medicine*, there is a case still more astonishing: it is said that a similar deposit had a triple issue through the parietes of the abdomen, bladder, and vagina. The patient was restored, after having been for a considerable time in the greatest possible danger. I shall have occasion, in a subsequent chapter, to return to this subject.

It sometimes happens that, when peritonitis has acquired its maximum of intensity, it diminishes by degrees, after having remained for some time stationary; the pain is much less severe in the abdomen, and disappears entirely in some points; the tension is less considerable; the pulse loses in frequency at the same time that it acquires more strength; the countenance resumes its natural expression; the lochiæ, the secretion of milk, if they have been suppressed, re-appear, and the patient in a short time is

re-established, feeling ordinarily slight, vague pain in the abdomen, particularly after certain motions.

This termination of peritonitis is sometimes simultaneous with critical evacuations; such, for example, as an abundant diarrhœa, (Willis, White, Tissot, Bonella,) copious sweats, (Le Nicolais du Saulsay, Delamotte,) foul urine, with a sediment at first filaceous, afterwards forming a mass of a dull white, (Van Swieten, Doublet, Cluet, Amard,) an abundant salivation, (Puzos,) miliary eruptions, (Puzos, Gastellier, Planchon.)

Patients who have recovered from peritonitis, usually experience slight pains in the abdomen, sometimes wandering, sometimes confined to a particular spot. The pains are felt after certain motions and positions. They have been attributed to the pulling (*tiraillement*) experienced by the adhesions which have taken place in the different portions of the peritoneum. These adhesions have, on several occasions, produced an internal strangulation of the intestine or epiploon, and consequently death, after a recent peritonitis. They have likewise been known to occasion sterility. It is easily conceived that newly formed membranes, by causing unnatural situations in the tubes and ovaria, by sepa-

rating them from each other, preventing their immediate contact, and closing the orifice of the tubes, will become an insurmountable obstacle to fecundation. I could mention several women who, notwithstanding their great desire, were prevented from becoming mothers after having been affected with puerperal peritonitis.

It is to the thickening of the peritoneum, to the obstruction of the tubes—a consequence of inflammation—that Walter, after the numerous dissections he has made, attributes the sterility of prostitutes: ovaria, ut notum est, tenera atque polita membrana sunt vestita, et hæc a peritoneo oritur. Quod si ergo illa externa membrana ovarii præternaturaliter erassa est, tum certe impedit fæcundationem ovuli in ovario existentis. (De Morbis Peritonæi, p. 9.) Si ut antea fimbriæ tubarum per succum viscidum, ex membrana harum externa exsudentem, ut telam cellulosam præternaturalem, cum ovariis vel alia parte vicina tam firmiter concrescunt ut conjunctio non nisi summa vi et dilaceratione tuborum tolli possit, in hoc casu rursus nihil ex tubis ad uterum penetrare potest, et sterilitas est inevitabilis. (P. 11.) Fortasse not creditur tubas tam mutatas et præternaturales, ut antea dixi, inveniri. Pro summo meo dolore atque tædio, hoc in plu-

tribus centenis cadaveribus confirmatum esse vidi. (P. 12.) Ex his observationibus facillime hunc casum explicare, sive determinare possumus : qui fieri soleat quod fæminæ, uno vel altero infante edito, nunquam amplius concipiant, etsi nec ætas nec aliæ externæ causæ, vel a parte viri, vel a parte fæminæ, adsint, fæcunditatem impediētes. (P. 1.)

The course of puerperal peritonitis is ordinarily uninterrupted. This disease is often accompanied by distinct remissions and exacerbations, so that Burserius imagined that puerperal peritonitis should be classed among the continued remittent fevers. Selle places it among the remittent fevers ; and Nolte says, speaking of it : *Febris hæc est febris continuæ remittens quæ typum quotidianæ, aut tertianæ simplicis, aut duplicis refert.* (P. 6.) I will relate, farther on, a case of puerperal peritonitis, which I succeeded in curing, and in which there was, every day, at a fixed hour, a distinct paroxysm, followed by a remission at the end of some hours. There are several similar cases recorded in the second volume of the work of Dr. Amard.

Osiander published, in 1787, at Tubingen, a memoir on intermittent puerperal peritonitis, which he had observed in 1731, at Cassel, in a

rickety female, after death. In the post mortem examination, the ovarium and tube on the right side were found inflamed; the left portion of the uterus was attached to the peritoneum and rectum; the left ovarium, almost entirely destroyed by suppuration, strongly adhered to the tube and neighboring parts, and was covered by a yellow purulent matter. Stein has observed two cases of the same nature, and had communicated them in detail to Osiander, when this latter published his memoir. I do not find the characters of an intermittent fever in the description given by Osiander, and he himself states there never occurred a complete apyrexia. The affection of which he treats is a disease of a continued type, accompanied by irregular exacerbations, sometimes to the number of three, four, six, in the twenty-four hours. The peritoneum was certainly diseased; but the greatest disorders existed in the ovaria.

In a work entitled *Observationes quædam de puerperarum morbis, deque ipsarum epidemica constitutione*, doctor Cerri speaks of an epidemic which, at the close of the year 1786, and at the commencement of 1787, declared itself at Arsago in Lombardy, among the lying-in women, from which not a single individual escaped. He

says that this fever was ordinarily a quotidian remittent, and sometimes intermittent. (Ozanan, History of Epidemics, t. 2.)

Are the facts observed by Cerri analogous to those cited by Stein and Osiander? Not having read them, I am unable to decide upon the subject. I am not acquainted with any particular facts, which will allow me to admit in a positive manner the existence of intermittent puerperal peritonitis. Its possibility, however, appears to me demonstrated by a case of peritonitis at first intermittent, then continued, observed in a man of middle age, and reported by professor Andral. (Medical Clinic.)

Before proceeding farther, I must advert for a moment to the principal symptoms of the disease.

I have nothing to add to what has already been said with regard to the chill.

I have spoken of the pains in the abdomen, and of their particular character. It is necessary to remark here that, in certain cases, these pains do not exist during a part of the disease. The following is a remarkable example of this, which I extract from the *Inaugural Disseration* of doctor Legouais, p. 74, Observation 8th :

Louisa C***, twenty four years of age, a weaver by trade, possessing a strong constitution, and

enjoying ordinarily good health, entered the Maternité the 6th January, 1819, and was delivered the 11th of the same month, at half after eleven in the evening, of a living and full grown child, after a long and severe labor. The rest of the night and the following day passed on well; the lochial discharge was natural; the patient had no evacuation from the intestines.

On the night of the 13th January, the second day after delivery, without any previous chill, acute pains in the abdomen, accompanied by fever, were experienced. Emollient cataplasms were applied to the abdomen, which caused the pains to cease; but the fever persisted. On the morning of the 13th, the pulse was frequent, somewhat hard, and tolerably strong; great heat in the skin; constipation. The abdomen manifested to the touch but a very slight degree of sensibility. A vapor bath was administered in bed, which determined a copious perspiration, and the laxative oily mixture was given, by which six or seven stools were procured. Calming drinks were prescribed. In the evening there was an amelioration in the symptoms. Twenty leeches were applied to the vulve. In the night, but slight change; the patient slept a little; no inclination to go to stool; very slight lochial

evacuation. The 14th, second day of the disease, the abdomen continued to manifest but little pain ; but there was great heat in the skin ; countenance flushed ; pulse very frequent ; ardent thirst ; constipation ; lochia in very small quantity ; the secretion of milk did not take place. Drinks continued, and a cataplasm placed on the abdomen. In the afternoon, the same symptoms ; the abdomen began to be slightly enlarged. In the evening, at eight o'clock, forty-four hours after the commencement of the disease, fifteen ounces of blood were abstracted from the arm ; the patient was not in the least benefited by it, and the following night, the symptoms became rapidly aggravated. The 15th of January, third day of the disease, a very acute sensibility existed in the hypogastric region, where the uterus appeared remarkably prominent ; the abdomen was tender and inflated ; the pulse very frequent, somewhat hard, but not much developed ; the countenance assumed a yellow tinge, and indicated great pain ; constipation. Eight ounces of blood were taken from the arm ; herb teas, milk whey, and an emulsion of mallows and violets were prescribed. During the day and night, there was not the slightest amelioration ; the patient was now

seized with a diarrhœa. From this moment, the symptoms increased in violence; the abdomen became now more and more enlarged, occasioning a distressing oppression; the pulse was extremely frequent and feeble; the features continued to alter; the face assumed a deeper tinge; the tongue was dry; continuance of the diarrhœa; complete loss of strength; respiration rattling; slight delirium, and death, on the 18th January, sixth day of the disease.

The peritoneum possessed generally a reddish aspect; it contained about half a pint of liquid of a dirty white and slightly red color, in which a great number of purulent flocculi floated. All the viscera were covered with liquid pus, particularly thick near the diaphragm, liver and organs of generation. The right ovarium contained in its tissue small collections of white and thick pus; similar purulent collections were remarked in the tissue, and in several of the veins of the uterus on the right side; the substance of the viscera, and especially the mucous membrane of the digestive organs were perfectly sound.

This observation proves that there was not merely an absence of pain during the first stage of the disease, but that even there was no chill at the commencement, and that the tension and tu-

meffaction did not declare themselves until the second period, together with the pain. However, if we recollect that, besides the peritonitis, there existed an inflammation of the right ovarium and of the tissue of the uterus and its veins, we may perhaps be led to imagine that this inflammation existed primitively, and that the peritonitis was merely consecutive, and did not occur until the moment in which the pains were felt. Be it as it may, the diagnosis was very difficult, and the disease had made considerable progress when the peritonitis was first discovered.

It is very rare that the pains do not exist during a great part of the disease. It much more commonly happens that they are experienced from the commencement with great violence, modified, however, by the sensibility peculiar to each individual. Thus, as I have already stated, they manifest themselves first, in one or other of the inguinal regions, towards the broad ligaments and ovaria, or in the hypogastrium. It sometimes occurs that they commence at some other point, at the umbilical region, right or left hypochondrium, epigastrium, &c. They may even be confined to one or several of these spots.

When they commence in the region of the liver or stomach, certain phenomena occur at

the beginning, which are ordinarily not observed until towards the end of the disease—such as hiccough, bilious vomiting, and sometimes a general icteric taint, which might cause us to suspect an inflammation of the liver, or its annexæ.

There are usually one or two points in which the pains are felt most acutely, either during their increase,—by the pressure of the hand,—or in consequence of some motion. It frequently occurs that these pains are so violent, that the weight of the bed-clothes, and even of the sheet, is insupportable. Notwithstanding the opinion of John Clarke, and though he has in certain cases observed the contrary, (page 84,) the pain is usually proportioned to the degree of tension and tumefaction.

This tumefaction sometimes comes on very rapidly, and then it is accompanied by tension; at other times its development is more gradual; the abdomen is puffed up; there is slight tension. Occasioned frequently by the presence of gas in the intestines, the swelling of the abdomen is likewise often due to a simultaneous exhalation of gas and serosity in the peritoneal cavity. The size which the abdomen acquires in puerperal peritonitis, is much more considerable than in

peritoneal inflammations under any other circumstances, which is owing to the greater laxity of the peritoneum and abdominal parietes, and to the slight resistance which these parietes oppose to the expansion of the gas. It has been said that there is then much less tension; but I can affirm that I have most frequently noticed that the abdomen of lying-in women affected with this disease was extremely tense.

This tumefaction augments considerably the agitation and anxiety of the patient, by the difficulty it occasions in the respiration. This difficulty is sensibly felt at the commencement of peritonitis, on account of the pain caused by the descent of the diaphragm and the motion imparted to the abdominal viscera by a long inspiration; yet there are times when a long drawn breath will afford some relief. This relief is no longer possible during the inflated state of the abdomen; for at this period there is an insurmountable physical obstacle. The pulsation of the jugular veins is also more constant, and stronger. Hiccough and vomiting frequently declare themselves, and are produced by the distention of the abdominal parietes, and the compression of the viscera. These two phenomena are sometimes remarked at the commencement of

the disease, which is owing either to a sympathetic influence, or, as I have already stated, to the fact of peritonitis beginning on the portion of serous membrane covering the stomach, diaphragm, liver, or neighboring parts. But then the matter ejected, which is at first bilious, acquires less promptly that dark green, and afterwards brown color, so common towards the termination of the disease; it is not mixed with flocculent particles of the same color.

Constipation, much more frequent when peritonitis is sporadic, is sometimes met with when it prevails epidemically: thus, at the Hotel Dieu, in Paris, in the years 1776 and 1782, all the patients, according to Tenon, were in this situation. The constipation is more or less obstinate; in some cases it has appeared insurmountable.

Diarrhœa is scarcely ever met with at the commencement of the disease, except when it is epidemic. If the disease prevail sporadically, diarrhœa does not occur until towards the second, third, or fourth day. (Clarke.)

It is said to have declared itself in the epidemics at the Hotel Dieu in Paris, during the years 1746, 1774, and 1775. "The patients," observes Tenon, "had an evacuation of a bilious and slimy matter of great infection." I have had frequent

opportunities of observing a similar diarrhœa accompanied by evacuations excessively fetid. It is more or less abundant, commonly followed in the first moments by slight relief, which, however, is of but short duration. When it is excessive, it diminishes rapidly the strength of the patients, who are very much fatigued by the constant and painful griping. I reproach myself for having paid but little attention, less certainly than the subject merited, to the nature of this evacuated matter, and to the difference between it and that discharged in cases of inflammation of the mucous membrane of the intestines. Besides the disgust attached to researches of this kind, they are not practicable in the hospitals, where every effort is made to remove whatever may tend to add to the infection. Several authors, particularly Levret and Planchon, have alluded to this subject; but I fear what they have said has been dictated rather by the ideas they entertained with regard to the nature of puerperal diseases, than by observation. Much remains to be done. However, the appearance of this matter is not the same during the whole course of the disease. Yellow, bilious at the commencement, it becomes sometimes serous; at other times, it is muddy, green, or assumes a dark brown: in cer-

tain cases it is slimy, sanguineous, and excessively fetid. These different appearances may serve to form our diagnosis and prognosis, and may have some influence on the treatment, by informing us whether favorable consequences are to be expected from the diarrhœa—and therefore whether it is proper to promote or combat it.

The state of the pulse merits our attention for a moment. According to Delaroche, it is very frequent, tolerably hard and full, during the first few days, except at the time of the chill. According to Hulme, Leake, and the physicians at the Hotel Dieu in Paris, it is frequent, weak, small, and concentrated. This difference of opinion with regard to the state of the pulse, confirms the assertion of Franck, who says it is changed by the slightest cause, which he attributes to an excitement of the physical and moral sensibility. The different circumstances in which Delaroche, on the one hand, Hulme, Leake, &c. on the other, have observed the disease, is a sufficient explanation of their contradictory opinions. One, practised at Geneva, a city which, on account of its advantageous situation on a hill, the direction of the Rhône, the vicinity of a large lake, the water of which is perfectly pure, and its excellent police regulations, enjoys

a very salubrious air ; while the others made their observations in hospitals where, notwithstanding all human efforts, the air is much less healthy. I have observed that, when peritonitis is sporadic, the state of the pulse approaches the characters assigned by Delaroche, whilst, on the contrary, in epidemic peritonitis, it possesses those described by Hulme, Leake, Doublet, &c. I remarked this at the Maison d'Accouchement in Paris, where I have been enabled, at different periods, to notice both sporadic and epidemic peritonitis.

A point on which all authors agree, is the frequency of the pulse ; whether strong or feeble, hard or soft, it soon beats beyond a hundred in a minute, and increases to 110, 120, 130 and 140. It possesses this frequency almost at the commencement, when the disease is epidemic, whereas, in the other case, it does not acquire it until the end of two or three days.

COMPLICATIONS.

Puerperal peritonitis is not always in an isolated state; for, on the contrary, it often happens, and especially in hospitals, that it is blended with some other disease.

Of all the complications, pleurisy is, without contradiction, the most common. Leake even goes so far as to ask if, after child-birth, pleurisy is not more frequent than peritonitis. This complication is very dangerous, and often very difficult to recognize. However, the oppression, the frequency of the pulse, are greater than in any other case, as likewise are the pulsations of the jugular veins. There ordinarily exists an obtuse pain behind the sternum, particularly at the inferior portion; frequently there is but very little cough; the abdominal pains are felt most at the superior part of the belly. We must admit that all this is but trifling, for the purpose of insuring a correct diagnosis; for the oppression, the difficult respiration, may be produced by other causes than the frequency in the circulation and the pains determined by long inspirations. The cough may be habitual; it is sometimes so rare and

slight, that it appears scarcely to merit attention. The slightest motion producing the most acute pain, it is almost impossible to explore the chest properly; percussion and auscultation are likewise of but little avail in such cases, being rendered ineffectual by the increased volume of the *mammæ*. It hence results that this complication, when it exists, is frequently unknown, imagined when it has no existence, and that the post mortem examination has alone been able to discover the truth.

The following is a case in which pleurisy had not even been suspected, though it constituted the principal disease:

A female, aged twenty-nine years, of a sanguineous temperament, had been eleven days delivered of her third child, when, in consequence of fright, her *lochiæ* became suppressed. The next and following days, pains in the loins, more acute in the left than right, extending to the dorsal region; difficult respiration; colic; nausea; constipation; in the evening slight chill, followed by copious sweats; insomnia. The fifth day, this female came nearly naked to the hospital of Saint Louis, the weather being very cold. The following symptoms were observed: pains excessively severe in the loins and back; obtuse

pain behind the inferior extremity of the sternum, not increased by pressure; respiration difficult and interrupted; abdomen tense, but not painful; face flushed, and slightly changed; lips parched; mouth clammy and bitter; tongue whitish, very dry; nausea; skin hot; pulse small, weak, beating 120 in a minute; constipation for three days. Hydromel, emollient injections, which occasioned abundant evacuations, in consequence of which the abdomen became relaxed. In the evening, a strong paroxysm; copious sweats, preceded by a chill. Thirty leeches to the vulve, which determined a considerable discharge of blood. The sixth day, the pain in the loins was diminished, but the respiration continued somewhat difficult; pulse at 120; face less flushed; yellow taint of the conjunctiva, and also of the nose; lochiæ arrested; the breasts swelled and painful. Hydromel, and emollient injections. During the day, the stools black and copious. In the evening, the paroxysm was less intense, without chill; abundant perspiration in the night. The seventh day, respiration less oppressed; pain in the loins very slight; that behind the sternum still continued; pulse 92 in a minute; the lochiæ had not re-appeared; abundant diarrhœa. Twenty leeches to the vulve.

The eighth day, same condition. Ten leeches to the vulve. The ninth day, the respiration was natural; slight pain in the left hypochondrium, extending towards the epigastrium; abdomen soft; countenance tranquil; pulse 96; the thirst continued, and the tongue was somewhat dry. Blister to the internal and superior part of each thigh. The tenth day, the patient so much improved that she was considered convalescent; she now experienced only an obtuse pain at the inferior portion of the sternum; no pain accompanying inspiration. However, there was slight diarrhœa; the pulse preserved its frequency.—The eleventh day, at noon, a paroxysm more violent than usual; there was oppression, with cough, and the expectoration of frothy mucus. Same state on the twelfth day; the cough was very frequent during the night. On the morning of the thirteenth, position on the back; cheeks bluish; respiration hurried, noisy, very much oppressed; cough frequent; pulse tolerably strong, at 112; the eyes half closed; the patient preserved her faculties, and said she experienced no pain. *Polygala senega*; a potion with the syrup of *ipecacuanha* and *kermes*; blister to the sternum, *maniluvia* and *pediluvia* rendered styptic. During the day, the respiration

became more and more embarrassed ; she died at seven in the evening.

In examining the body, the mammæ were found very much developed, and when cut into there was a copious flow of milk : nothing particular observed in the head.—*Thorax*. Ancient adhesions on the right ; the lung, healthy, contained a quantity of reddish, frothy mucus ; on the left, the pleura presented a general phlogosis, covered with a purulent, greenish, and slightly adhering layer : this membrane had acquired a remarkable thickness, particularly on the lung and pericardium, where it measured about two lines. In its cavity there was effused more than a pint of purulent serosity, without odor, of a greenish yellow, rendered turbid by the presence of flocculent particles. Thrown upwards by this effusion, the lung, flattened, reduced to a third of its volume, adhered here and there to the costal pleura and mediastinum, by means of false membranes. Otherwise, its parenchyma was sound though infiltrated with a mucous material.—*Abdomen*. Peritoneum very healthy, except the transverse mesocolm, which was inflamed, and contained between its laminæ a quantity of liquid similar to that found in the chest. (Moreau, Dissert. Inaug. Paris, 1821.)

I cannot better represent the difficulty of a correct diagnosis in a similar case, than by recording some of the reflections made by Dr. Moreau on the above observation :

“Behold,” says he, “a most severe pleurisy terminating in suppuration, the existence of which was not announced by any pathognomonic sign. It was not even suspected during life. All our attention was directed towards the abdomen, which, in truth, was not painful, but offered a slight degree of tension—which fact, joined to the suppression of the lochiæ and the pain in the loins, caused us to suspect peritoneal inflammation, of which the difficulty in respiration is a phenomenon by no means uncommon. It is certain that we did not pay sufficient attention to the pain in the back, nor to the difficulty in the respiration. But whereas at a later period the pain in the loins disappeared, and the respiration became natural, we had sufficient reason to confirm our first opinion. When the most profound inspiration was unattended by pain, could we suspect that the pleura was the seat of so radical a disorganization?”

I will add a few words to these reflections. It may, perhaps, be imagined that, by the aid of

percussion and auscultation, this error might certainly have been avoided; but, as I have elsewhere observed, these two means of discovery are very feeble when there exists peritoneal inflammation. The pressure to which the lungs are accustomed during pregnancy, renders the difficulty occasioned by pleurisy in the respiration much less sensible; the sac of the pleuræ finds but little resistance in the ribs and diaphragm, and the result is a more limited and less rapid compression of the lungs. A phenomenon meriting the greatest importance, is this sentiment of oppression, this obtuse pain experienced behind the inferior portion of the sternum. Far from this pain being to me, as it was to Dr. Moreau, an evidence of peritoneal inflammation, I regard it, after abundant observation, as almost an infallible symptom of the inflammation of the pleura.

Another frequent complication of puerperal peritonitis is inflammation of the womb, whether it exists primitively, or whether it declares itself simultaneously or consecutively. Several authors have advanced that the disease commences ordinarily in the uterus, and is afterwards propagated to the peritoneum. This opinion does not appear to me to be tenable, for post mortem examinations demonstrate that most frequently, particu-

larly when the disease is sporadic, the tissue of the uterus is in the most healthy condition, whilst the peritoneum exhibits unequivocal evidences of inflammation. I observed this fact repeatedly in the year 1821, and Walter made the remark a long time since. He expresses himself upon this subject as follows: *Dicendum mihi est me, inter tantum numerum feminarum febre puerperarum mortuarum, quarum corpora secui atque diligentissime perscrutatus sum, nunquam inflammationem uteri, ut causam hujusce morbi, invenisse. Casus vero ubi artis obstetriciæ imperiti atque indociles uterum dilaniarunt, dilancinarunt, et lacerarunt, excipio, et hic omnino inflammatio uteri aderat; sed hæc infelices non febre puerperarum mortuæ erant.* (P. 35.) This last sentence proves that Walter was well acquainted with the inflammation of the uterus, and that, if he did not find traces of it in the examination of those who had died of puerperal fever, it was in fact because there were none.

I will remark, however, that when the tissue of the uterus is inflamed, it is very rare that the inflammation does not extend to its peritoneal tunic. The complication resulting from it occasions but little difference in the principal symptoms; it is even frequently unknown. When it exists, the

pains are chiefly seated in the loins and towards the hypogastric region, where sometimes a tumor is felt, formed by the fundus of the uterus. In this case, also, the lochial evacuation is suppressed, or replaced by an acrid, irritating, serous liquid, which often determines the inflammation, redness and excoriation of the vulve, perineum, and superior portion of the thighs. If we have recourse to the operation of touching, a sensation of heat will be imparted to the finger; the neck of the uterus is likewise the seat of a similar heat; it is sometimes swelled, and painful on pressure. We may easily appreciate by the finger an increased bulk and hardness, either in the whole extent of the uterus, or only in one portion of it.

I will cite an example of peritonitis following an acute inflammation of the uterus, which I extract from the *Clinique Medicale* of professor Andral :

“A female, thirty-one years of age, was naturally delivered, but with great difficulty and pain, of her first child. Towards the commencement of the fourth day after delivery, she was seized, without any known cause, with a violent fever, and an acute pain in the hypogastrium. Weak and exhausted, she entered the hospital of La

Charité in the evening; about three fingers above the pubis, a globular tumor was felt, painful on pressure, which resembled, in its form and position, the body of the uterus developed. The pain in the hypogastrium was not so acute as that experienced in the groins. The rest of the abdomen was soft and insensible. There was no discharge from the vagina; the neck of the uterus was tumefied, and painful to the touch; the pulse was frequent and hard; the skin hot and dry; the tongue natural; stools rare, and respiration free. M. Lerminier stated that there was acute inflammation of the uterus, and ordered the application of thirty leeches to the hypogastrium, emollient fomentations, and demi-baths of the same nature. The next day, the third of the presumed inflammation, the symptoms were the same. From the third to the seventh, general bleeding; two new applications of leeches, fifteen each time; gradual diminution of the fever; cessation of the inguinal and hypogastric pains; but continuance of the tumor, and, notwithstanding an amendment in several of the symptoms, rapid decay, extreme paleness of the countenance, and remarkable alteration of the features. From the eighth to the ninth day, new symptoms declared themselves; the patient was troubled with con-

tinual vomiting; she ejected a quantity of green bile, and all the ptisans which she had taken; the tongue was slightly white, and had not changed its appearance. The whole abdomen had become the seat of the most acute pain, exasperated by the slightest pressure. The alvine and urinary evacuations were suppressed; the pulse very frequent and weak; the skin free from heat, but covered with a moisture disagreeable to the touch. The countenance assumed a cadaverous aspect. Death forty-eight hours after the invasion of these new symptoms. The case appeared so desperate, that M. Lerminier was unwilling to torment the patient by any active medication. He merely ordered two blisters to be applied to the thighs, which, however, did not produce any effect.

“Opening of the body. A turbid, lactescent serosity was effused in middling quantity in the peritoneum; this membrane was covered here and there with whitish membranous particles, without any trace of organization; it presented generally a lively injection, which appeared to be situated in the sub-peritoneal cellular tissue. In many points, this latter was partially filled with a reddish serosity, similar to that which exists in an incipient phlegmon; the peritoneum, pushed

up by it, resembled a very thin pellicle, which might have been taken for a portion of epidermis, raised by the fluid of a blister. Flocculent particles more numerous, and a liquid of greater consistence than in the rest of the peritoneal cavity were collected in the excavation of the pelvis. Above the pubis, the tumor which had been observed during life, and which was in fact the developed uterus, was still prominent. The tissue of this organ had become excessively friable; it was easily torn; and when its parietes were cut into, pus resembling cream flowed in great abundance. The substance of the uterus, in its whole extent, and particularly towards the fundus, was infiltrated with this pus, which, in five or six places, had a cumulative appearance. The uterine cavity was very large, and its surface presented a reddish aspect. It contained a small quantity of sanguineous fluid. The mucous membrane of the intestines, and especially that of the stomach, was throughout white, and of ordinary consistence." (T. 4, p. 554.)

The complication of peritonitis with inflammation of the uterus, is observed rather often in hospitals, particularly when the disease has prevailed with violence.

There exists an affection of the uterus as yet but little known, which is scarcely ever met with unaccompanied by puerperal peritonitis, and which consequently sometimes complicates this disease, particularly when it is epidemic. Boer has designated it by the name of *putrescentia uteri*, and by others it has been termed *ramollissement* of the uterus. We can detect this complication—always fatal—only by the rapid progress of the disease, and the appearance of the most dangerous symptoms at the commencement. The pains are often extremely violent, and occupy the entire pelvic cavity; sometimes they are dull, obtuse; in fine, they have been known to be altogether absent. According to Boer, the neck of the uterus is cold, and imparts to the finger a sensation similar to that experienced in touching the nose of a dog.

Since this work was sent to Bordeaux, Dr. Danyau has written an excellent inaugural dissertation on gangrene of the womb. The following extract will convey an accurate idea of the complication to which I allude:

“A female, eighteen years of age, possessing a feeble constitution, and of a lymphatic temperament, pregnant for the first time, received,

about the middle of her gestation, a blow in the bas-ventre. The pains consequent on this injury were soon calmed by the use of emollient cataplasms and repose. No accident occurred during the remainder of her pregnancy. She was delivered of a dead child, after a very tedious accouchement. In consequence of hæmorrhage, it became necessary to introduce the hand for the purpose of extracting the placenta.

About the commencement of labor, she had experienced in the left hypogastrium, and towards the umbilicus, and soon afterwards in the whole extent of the abdomen, acute and continued pains, different from those produced by the contractions of the uterus. The pains gradually increased, and after the termination of labor they became so violent, and the abdomen was already so inflated and hard, that the patient was immediately removed to one of the wards of the infirmary.

At the first visit, she was much exhausted, and lying on her back; her features were profoundly altered, and the countenance languishing. The abdomen was very sensible to the slightest pressure, more so, however, below than above the umbilicus; the tongue whitish, somewhat dry; great thirst. Since the accouchement,

she had been troubled with nausea and vomiting of a yellow green matter. The lochiæ reddish, in small quantity, and of a bad odor; oppression; pulse small, and very frequent. Forty leeches were applied to the abdomen; shortly afterwards the feet were covered with sinapisms. The pains were not relieved; the prostration increased rapidly. At three o'clock, the skin was bluish in the face and on the limbs; the extremities were cold; pulse imperceptible. The patient died at five o'clock in the evening, fourteen hours after delivery. An ounce of mercurial ointment had been prescribed for six frictions on the abdomen; three only were made.

In the examination of the body, the peritoneum was discovered to be red, particularly on certain portions of the small intestines, fallopian tubes, and ovaria. Towards the fundus of the uterus and on its anterior surface, spots of a dark red color were observed. A large quantity of serosity was effused in the peritoneal cavity. No adhesions were noticed.

The uterus, flabby to the touch and prominent above the pubis, measured eight inches in its longitudinal diameter, and five in its transverse. It was eleven lines in thickness at the middle portion of its body, eight at the fundus, and five at

the neck. Its interior surface was covered with a tolerably thick coat of blackish, grumous matter, which emitted a fetid and gangrenous odor. Having scraped off this matter, and washed the uterus, we were unable to observe at what particular point the placenta had been inserted. The whole of this surface, to the depth of a line and a half to two lines, was converted into a soft, livid pulp, exhaling the same odor as the matter which covered it. The altered tissue could not be considered as a mixture of mucus with the lochiæ, for it adhered to the subjacent parts; when it was seized with the pincers, shreds were observed to be raised from it, in which there were evident traces of organization. At a still greater depth, the uterus was sound, but not very solid, which is by no means surprising, death having so soon followed delivery. Near the superior angles, but especially in the substance of the neck, several small veins were filled with pus; the coats of the largest veins were of a livid red color. The cavity of the neck, confounded with that of the body, formed with the vagina a continuous canal. The lips of the neck were so effaced that they could with difficulty be recognized; the limits of the putrid ramollissement alone indicated their situation; for the vagina,

though of a brownish red, and presenting an ecchymosis in some points, was otherwise healthy. The ovaria were large, and but slightly infiltrated. The fallopian tubes, ligaments, veins of the pelvis and ovaria, together with the intestinal canal, were all in a healthy condition. We found in the right pleura a glass of thick serosity, mixed with fibrinous particles. (Essay on Gangrene of the Womb, August, 1829, p. 19.)

It does not belong to my subject to examine the different opinions respecting the nature of the alteration which the tissue of the uterus undergoes in the affection known under the name of *putrescentia uteri*. They will be found well exposed in a thesis sustained before the Faculty of Medicine at Strasbourg, in the month of November, 1827, by doctor Luroth, and in the dissertation of M. Danyau. Neither of these opinions appears to me to be plausible. But considering, on the one hand, that the tissue of the uterus is converted into a jelly—into a homogeneous, reddish, livid, brown and blackish pulp, with the disappearance of every trace of organization; and recollecting, on the other, the condition of the internal surface of the uterus, after the expulsion of the placenta, (Hervæi Exercit. de Generat. p. 522); conceiving the possibility of

the air acting on this surface ; and attending to the circumstances under which the *putrescentia* is developed, I find a very great resemblance between this affection and the hospital itch. The appearance of the gangrenous parts differs essentially from that presented in traumatic typhus. I will here transcribe my observations on this subject in 1824, in a dissertation on the following question : *Au putredo nosocomialis cum gangræna confundi potest ?* This dissertation was defended at the Concours for Aggregation in the Faculty of Medicine at Paris : *Putredo noscomialis exedit carnes quas in materiam mollem, pulposam, cineream, congeneramque convertit. Partes aliquando consumuntur, nec reliquæ supersunt quæ detrimentum confirmant. Gangræna lethalem exitum affert ; sed partium textura perstat eadem, donec elementorum solutio putrida venerit.* (P. 26.)

Thus, as I remarked above, sloughs were not observed in the cavity of the uterus, but a homogeneous pulp, which exhibited no evidence of organization.

The inflammation of the brain and its membranes, pericarditis, pneumonia, pulmonary catarrh, angina of the pharynx, larynx, and tra-

chea, may accompany peritonitis. The complication with angina of the larynx and trachea, was very frequent in the Maison d'Accouchement during the year 1826. It often proves fatal in a few days; and I have seen several cases of it accompanied by membranous concretions, similar to those in croup.

Another complication frequently observed in this institution, is an inflammation of one or more of the synovial membranes. Clarke in England, Storck and Boer in Germany, have noticed this complication. Boer speaks of it as follows: *Quando febris initium ex phlogistico œdemate in quodam articulo duxit, aut tardius supervenit tumor, tunc eo post mortem inciso serosus, ut vulgo ex simili noxa, humor manat.* (P. 254.)

Chaussier has repeatedly alluded to it in his discourses before the Faculty of Medicine. M. Husson assures us that he remarked it ten times in fifty dissections at which he assisted. It is particularly in the articulations of the hand and knee that I have met with collections of pus in women who have died of acute peritonitis. I have likewise seen it in the articulations of the elbow, shoulder, hip, and foot. It is very remark-

able that this complication, very common in certain years, is quite rare in others, without our being able to assign any reason for this difference. Sometimes the signs of inflammation were evident during life; the patient complained of pain in the articulation; this pain was increased by pressure, and particularly by the slightest motion. Heat, swelling, and, in some instances, redness of the skin were observed. At other times, none of these symptoms were present, and yet one or more of the articulations were found filled with pus.

Professor Deneux has called attention to a similar suppuration met with in the pubic and sacro-iliac symphyses, which we must be careful not to confound with the relaxation of these same symphyses. He cites a remarkable example of it, which might have been mistaken for peritonitis. I will recur to it when treating of the diagnosis.

Peritonitis is sometimes complicated with an affection termed the *phlegmasia alba dolens*, a milky engorgement of the inferior extremities, and which appears to me to be nothing more than an inflammation of the lymphatic vessels. I have seen several females fall victims to this complication, after a month or six weeks continuance of the disease, notwithstanding the

most careful attendance ; at several different times, they experienced a favorable change in the abdomen and diseased limb, which gave hopes of recovery.

Enteritis sometimes exists simultaneously with peritoneal inflammation. This complication, which the frequency of an abundant diarrhœa might induce us to imagine common, does not very often occur. I recollect to have noticed it a great number of times in 1825, at the Maison d'Accouchement ; it had, however, been very rare during the preceding years, and was not less so the two following. The complication was discovered only at the post mortem examinations. The symptoms did not differ from what is observed in simple peritonitis. Perhaps the progress of the disease was more rapid ; it was almost always fatal. Besides the disorders consequent on inflammation of the peritoneum, the mucous membrane of the intestines was, in many places, found to be red, thick, and ulcerated. Professor Andral has published the following example of this complication :

A female, aged twenty-nine, was easily and promptly delivered of a child at full term ; immediately after her accouchement, she was attacked by an abundant hæmorrhage, which was

resisted by the application of ice to the hypogastrium, and lemon juice injected up the vagina. The lochial evacuation continued as usual. The fourth day, without any known cause, every species of evacuation was suppressed, and the abdomen became the seat of very acute pain. The next morning, being the fifth day, the female entered the hospital of La Charité. The abdomen was inflated, and painful on pressure; respiration accelerated, without cough or expectoration; pulse frequent and small; skin hot and dry; tongue natural. No evacuation for two days; absence of nausea and vomiting. The face was pale and altered; the patient appeared excessively exhausted. No tumor was perceptible above the pubis, and the neck of the uterus could be touched without pain. Twenty leeches to the abdomen; an ounce of castor oil; emollient fomentations and injections. The patient was unable to retain the castor oil on her stomach. During the day, she appeared to sink very rapidly; her face was covered with a yellow taint; and in the morning of the sixth day, she had a strongly marked jaundice. The abdomen still continued inflated and painful; there was no other change in the patient but a prostration of strength, which appeared to increase every

hour. She died in the evening, six days after her accouchement, and three days only from the commencement of the pains in the abdomen. A few hours after death, the tumefaction of the abdomen was very considerable, and in the whole extent of its anterior parietes it resounded like a drum. At the opening of the body, the abdomen was as inflated as during life. On cutting into its parietes, a portion of intestine was pierced, and a great quantity of gas escaped from the digestive tube. Between the intestines, collections of a whitish material were observed, which connected them together; there was no evidence of organization in it. A white and thick pus filled the excavation of the pelvis; the sub-peritoneal cellular tissue was highly colored; the internal surface of the stomach was pale, but the entire duodenum was excessively red; small vessels in great number were distributed through the sub-mucous cellular tissue of the small intestines and cœcum; the remainder of the large intestine was white, and filled with hard fecal matter. There was no apparent alteration, either in the ducts or parenchyma of the liver. (*Clinique Medicale*, t. 4, p. 540.)

The inflammation of the small intestines, particularly of the duodenum, was very evident.

This case differs from those I observed, by the constipation, which continued until death.

This is the proper place to allude to a verminous complication, noticed by Van den Bosc. In a chapter entitled *De febre mucoso-verminosa, puerperii accessoria*, he describes several examples of puerperal fever attended with this complication. The accouchement had been natural, the lochiæ flowed abundantly, and the mammæ were filled with milk; but they suddenly shrank; the patients complained of anxiety and violent pain in the hypogastrium, which did not cease until a number of worms had been discharged, accompanied by an abundant evacuation of putrid matter.

Doctor Amard cites an example of puerperal peritonitis with this sort of complication; he attributes to it certain irregular symptoms, which were developed during the course of the disease. (T. 2, p. 82.)

Osiander reports a similar case, and he appears to attach great importance to the presence of intestinal worms, as a cause of what he terms fever of the epiploon, a name he proposes to substitute for that of puerperal. (Archives of Midwifery, by Schweighœuser.)

There is great obscurity attending verminous affections. It is difficult to conceive the connection which exists between puerperal peritonitis and the presence of worms in the intestines. We scarcely deem it necessary to observe, that we do not now allude to those particular cases in which these animals penetrate the peritoneal cavity, through a perforation of the intestine. I am inclined to believe that in the cases mentioned by Van den Bosc, Amard, and Osiander, there was nothing more than a simple coincidence, and that the peritonitis was by no means caused by the intestinal worms. I believe, with Vigorous, that in such cases, the verminous affection is merely secondary; that it is scarcely necessary to pay any attention to it, the purgatives, so frequently useful in inflammation of the peritoneum, being sufficient to determine the expulsion of the worms.

I have repeatedly noticed worms in the intestines of females who have died of peritonitis, without the disease having presented any thing which could have caused us to suspect the existence of these animals.

Doctor Cluet cites three cases of a similar complication; each of these cases proved fatal. On

one occasion the complication was suspected, because the patient complained of a constriction in the throat, and frequently rubbed her nose. The administration of an oily potion, with the addition of sulphuric ether, procured an ejection of three worms. In the other two cases, several were expelled spontaneously. Besides the peritonitis and worms, the three patients were affected with an extensive phlogosis of the mucous membrane of the intestines.

I find in the third volume of the *Cours sur les Généralités de la Médecine Pratique*, by professor Leroux, the following singular instance of a complication of peritonitis with cystitis.

A female, aged twenty-seven, of a lymphatic temperament, and rather inclined to be fleshy, made, in the fifth month of her pregnancy, on the 6th November, 1819, a violent effort to produce abortion. She experienced in her groins a bearing down, which was followed by intense pain. The next morning, she consulted an accoucheur; she was bled from the arm; a bath, and an infusion of flaxseed, pellitory, and liquorice were ordered. This female entered La Charité 21st of November, fifteen days after her accident, but she was unwilling to give us further information.

Great prostration; the patient cannot lie on her side; skin dry; countenance and lips pale; eyes sunken; tongue parched and whitish; mouth clammy; thirst oppressive; anorexia; respiration difficult; the pulse full, strong, hard, and quick; the hypochondriac and lumbar regions very painful; abdomen tense, and excessively painful; intestinal evacuations rare; urine red and thick, emitting a fetid odor; right thigh and leg much tumefied. Leeches were applied to the abdomen; but the extreme debility of the patient would not admit of much loss of blood; sweetened milk-whey, ptisan of flaxseed, with syrup of mallows, and emollient injections, were ordered. 22d. Vomiting of bilious matter, and a discharge of blood through the vulve. 23d. Repetition of the vomiting; diarrhœa; the pains very violent. 24th. During the day slight amendment; but in the evening the pains augment; diarrhœa more abundant; skin burning; pulse more frequent and irregular; mouth dry; tongue hot; intense thirst; no evacuation of urine for two days. A sound was introduced; a muddy, black fluid, of a very infectious odor, was discharged. When the sound was withdrawn, it was as black as if it had been exposed to the action of sulphuretted hydrogen. The patient was restless during

the night. The following morning, 25th, an exacerbation of all the symptoms. In the evening the pains increased, principally in the groins; cold sweats and convulsive movements. At five o'clock in the afternoon the patient was delivered of a dead foetus covered with its membranes. The accouchement seemed to afford slight relief; but, in the middle of the night, the pains became aggravated; her sufferings were now most excruciating, and she died on the 26th, at seven o'clock in the morning.

The peritoneum contained about four pints of a turbid, whitish serosity, in which flocculent particles and portions of false membranes, which covered its whole extent, without excepting a single point, were observed; and which, by insinuating themselves between the circumvolutions of the intestines, united them in such manner as to constitute but one mass.

The stomach was excessively distended by gas; so likewise were the intestines, and particularly the colon; but the mucous membrane of the entire alimentary canal was sound. The uterus was triple its usual size. The bladder was more diseased than any other organ; it had acquired an immense volume; its parietes were inflamed, thick, and hard, possessing a brown color, es-

pecially towards the interior; at different points, ulcerations, covered with sanies, were perceptible. The entire organ exhaled an odor similar to that of gangrene; the urine found within it was thick and greenish; it contained portions of membrane of a livid color. The urethra participated in the disease of the bladder.

The above observation will also be found in the *Anatomico-pathological Researches* on the practice of medicine, by Dr. Tascheron, vol. 3. It appears that the cystitis had not been recognised. The patient, says M. Leroux, did not complain particularly of the hypogastric region. Dr. Cluet likewise mentions a case of peritonitis complicated with inflammation of the bladder. The vesical pains, the suppression of urine, then its simple retention, its small quantity, its deep color, and the strong odor it exhaled, are the phenomena which caused him to admit the complication. The female recovered. (Observat. Med. Chirurg. page 30.)

Inflammation of the veins, and especially of the uterine veins, sometimes complicates puerperal peritonitis. Dr. Dance recently published an interesting work on this subject. He thinks that, when the complication occurs, peritonitis is more frequently secondary than primitive. He

mentions two curious cases of this complication, which he has observed ; he cites two others, extracted from the reports of doctors Louis and Andral. The perusal of his memoir cannot but prove instructive. (General Archives of Medicine, Dec. 1828, Jan. and Feb. 1829.)

I have sometimes had occasion to remark inflammation of the veins of the arm develop itself during the progress of peritonitis, and produce death. Professor Deneux has repeatedly observed the same thing at the Maison d'Accouchement, and he held the following language on this subject, in a discourse at the public session for the distribution of prizes to the *sages-femmes* of this establishment, in the year 1826.

“ A female, thirty-six years of age, of a good constitution, became pregnant for the second time. During her pregnancy, her general health was excellent. She was delivered naturally and at full term, the 19th of December, 1825, after a labor of nine hours. The after-birth presented nothing remarkable.

“ However, on the first day of her confinement, she experienced a sensation of lassitude, cephalalgia, and an abundant perspiration. This *malaise*, accompanied by febrile action, continued for about fifteen hours, after which the patient

felt sensibly relieved. In the evening of the second day, the fever re-appeared, attended by a violent cough, great oppression in the respiration, pain in the right side of the thorax, and a troublesome pricking in the whole of this cavity; the expectoration was easy. The patient was carried to the infirmary on the evening of the following day. I examined her on the morning of the 24th, fifth day after her delivery. I found her in the following condition: the face was slightly colored; eyes watery; nose and lips tumefied, as likewise the tongue, the surface of which was covered with a whitish paste, whilst its borders and point presented a lively red color; mouth clammy; great thirst; the skin hot and moist; pulse rebounding and very frequent; the vessels of the neck pulsated with great rapidity; respiration much oppressed; violent cough, with pain in the right side, and a pricking sensation in the chest; slight expectoration. The milk was secreted on the third day. The patient complained of head-ache; abdomen yielding, and free from pain; abundant diarrhœa.

“Eight ounces of blood were taken from the arm; emollient drinks, with an absolute diet, were prescribed. The bleeding produced slight diminution in the intensity of the fever and op-

pression. The night was, however, passed without sleep, and in great agitation. The next morning, to the symptoms already enumerated, there was united a pain in the left hypochondrium. Diarrhœa somewhat less ; there was a small discharge of purulent lochiæ. The same drinks, together with an additional bleeding from the arm, were not followed by any greater success than at first. Diarrhœa again abundant ; increased thirst ; the skin burning and dry ; pulse more frequent ; less cough, but the oppression still continued. Forty leeches were applied to the right side of the thorax ; they procured evident relief ; the skin had now become moist, and less hot ; thirst diminished ; pulse less frequent, and respiration more free. This amendment was of but short duration : the symptoms re-appeared with all their intensity ; the speech became difficult ; the patient seemed to have lost all recollection. 28th of December, she complained of acute pain in the bend of the arm, from which the blood had been abstracted ; slight tumefaction and redness were perceptible. Emollient cataplasm ; ptisan of rice, with the syrup of gum ; white decoction of Sydenham ; sinapisms to the legs. The patient remained rather tranquil during the day, but in the evening she

was considerably agitated ; the eyes were fixed ; ideas incoherent ; speech short ; extreme thirst ; great frequency and irregularity in the pulse ; diarrhœa abundant. The next morning, the hands were cold and bluish ; acute pain in the chest, and particularly in the right arm, which had acquired a considerable volume ; skin of a violet-red color, principally in the bend of the arm, whence it gradually diminished.

“ On the morning of the 29th, the respiration was more and more embarrassed ; the pulse small, weak, and so frequent, that it was impossible to count the pulsations ; the patient lost her power of speech ; a cold, viscid perspiration covered the face and neck ; the eyes became dull. She died on the 30th of December, at eight o'clock in the morning.

“ The right arm was considerably tumefied, and presented an emphysematous appearance ; the epidermis was easily detached. The cellular tissue was reddish—infiltrated with a thin, sanguineous, and fetid pus. The cephalic vein, from which the blood had been abstracted, was surrounded by a quantity of matter which adhered intimately to it ; the parietes of this vein were thick, and of a reddish grey ; they had lost their soft and transparent character ; its cavity was ob-

structed by a substance similar to that found in the sheath of the vessel. The inflammation of the cephalic vein extended to the middle of the arm.

“ There was a remarkable redness of the right pleura ; between the two folds of this membrane a peculiar matter was observed, forming a sort of net-work, which contained a lactescent fluid.

“ The peritoneum presented a lively red color ; the circumvolutions of the intestines were feebly connected together by a layer of albuminous matter so very thin, that it could not have been perceived except by the adhesions it occasioned.

“ The stomach exhibited nothing remarkable ; the intestines were not opened.

“ In this case a strongly characterised pleurisy developed itself from the commencement, which had not been arrested, notwithstanding an active antiphlogistic treatment. There was likewise a slight peritoneal inflammation, which was obscured by the pleurisy. With the exception of a temporary pain in the right hypochondrium, the patient did not complain of the abdomen, which continued flexible and soft. What particularly struck me in this case was the inflammation in the arm, principally of the cephalic vein—the tardy development of this inflammation,

which was not manifested till three days after the last bleeding—and its rapid progress, threatening to terminate in gangrene in forty-eight hours, which certainly would have been the case if the patient had lived a few hours longer.

“In endeavoring to discover the cause of this accident, we are induced to demand whether or not the lancet with which the patient was bled had deposited any deleterious principle in the wound. The resemblance between this affection and inflammations essentially gangrenous, such as carbuncle and the malignant pustule, seems to authorise this opinion. The first time we observe an accident of this nature, it is difficult to remove all doubt; but when it occurs in several patients similarly situated—when we are positively assured that the instrument was perfectly clean before the operation—that it had only been employed upon the living subject, we are compelled to reject a cause which at first appeared plausible.

“We should not regard as similar all those inflammations which originate from a wound of the vein in bleeding. It sometimes happens that, after several bleedings from the same vessel—that even after one bleeding, accompanied by a thrombus more or less considerable, or after

too violent motion in the arm, &c. it happens, I say, that the lips of the orifice become inflamed, or that a slight phlegmon is developed in the subjacent cellular tissue, followed by the formation of a small abscess; at other times the vein itself becomes inflamed to a greater or less extent. Then the pain continues after the bleeding, and it gradually augments; the arm becomes slightly tumefied; its movements are restrained, painful in the articulation of the elbow, &c. We trace the progress of the disease from the commencement of the operation. This accident occurs to persons who lose blood as a matter of precaution, as well as to those laboring under a slight or dangerous disease.

“At other times, on the contrary, venesection is performed but once; there is no thrombus, no irritation from the wound, which sometimes cicatrizes. The patient feels no pain; but at the end of two, three, four, or five days, she experiences in the spot from which she was bled pains ordinarily very acute; a slight swelling is observed, which explains with difficulty the violence of the pains. The tumefaction makes rapid progress; sometimes the pain diminishes in proportion as the swelling increases; at other times, it continues with great severity. After two days, sometimes

sooner, a fatal gangrene is announced by all the ordinary symptoms.

“For several years past we have observed in this institution eight or ten accidents of this nature. None of them occurred to women affected with a slight disease; none manifested themselves at the commencement of a dangerous affection, but always after the affection had arrived at a certain period, after it had produced in the general system a profound change, which had already been considered beyond the resources of our art.

“The circumstances under which this disease is developed, its progress and termination, appear to us to establish a great resemblance between it and the gangrene, which frequently occurs in certain fevers—such, for example, as the prison, hospital, and typhus fevers. What still more strongly confirms us in this opinion is, that the wound is not always necessary in order for the accident to develop itself; and, in a case which occurred this year at the infirmary, not only was the arm from which blood had been drawn affected, but likewise the thigh of the same side, in which there had not been the slightest solution of continuity; and at the moment the patient died, the other thigh began to

show marks of disease. In this latter case, none of the veins in the arm were inflamed; the disease was seated in the sub-cutaneous cellular tissue, which was infiltrated with a quantity of reddish sero-purulent fluid, emitting a disagreeable odor. The cellular tissue of the thigh, and the ganglions in both groins, presented the same alteration."

I have quoted this article entire, notwithstanding its length, because it is little known, and because, in fine, the opinions it expresses are conformable to those I entertain on the same subject. I have seen all the patients of whom M. Deneux makes mention; I have had an opportunity of observing others, and all died of a rapid and profound gangrene, which was propagated at the same time, both above and below the orifice from which the blood had been abstracted. When the gangrenous inflammation of the arm developed itself, they were already affected with peritonitis, which had left us no hope of recovery. This complication is not rare in certain years; and in others it is not observed, though to all appearance there is no difference in the surrounding circumstances.

DIAGNOSIS.

The diagnosis of puerperal peritonitis, ordinarily very simple, sometimes presents great difficulties, and claims all the sagacity of the practitioner. It is necessary to consider carefully the circumstances which have preceded, accompanied, or followed, the attack of the disease; our attention must be particularly directed to the state of the abdomen,—the pains of which it is the seat,—the condition of the pulse, and the general aspect of the countenance. *Non ex uno signo, sed ex consensu omnium.*

The abdomen is often slightly tumefied; it yields a clear sound when struck by the finger. This condition of the abdomen does not necessarily indicate an inflammation of the peritoneum, for the sound it imparts, and the augmentation in its volume, may depend on the presence of gas in the intestines. The uterus distended by blood, or only partially restored to its usual size, may likewise give to the abdomen a volume greater than usual.

Pains in the bas-ventre, sensibility on pressure, may exist simultaneously with an increased size

of the abdomen, and still peritonitis not be present; this even happens rather frequently. In such cases, the pains are not permanent; they return at intervals more or less distant,—resemble the pains of labor,—are frequently accompanied or immediately followed by the discharge of liquid or coagulated blood. These, known under the name of after pains, are rare after a first accouchement, and very common after all subsequent ones. *Mulieres secundis doloribus a primo partu minus quam a futuris sunt obnoxiae.* (Manningham, *Artis Obstetr. Compendium*, p. 84.) They are considerably increased by pressure; whilst they exist, the abdomen is hard, and the most inexperienced hand will easily recognize the fundus of the womb, and the contractions of which this organ is the seat.

The state of the pulse will clear up all doubt. During the after-pains, it becomes accelerated; but immediately afterwards it is calm. When, on the contrary, there is peritoneal inflammation, it is always frequent, and this frequency, accompanied by more or less heat, is permanent, and continues to increase.

The absence of pain and tumefaction in the abdomen, of sensibility on pressure, will not always suffice to assure us that peritonitis does not

exist. I have recorded cases in which these phenomena were wanting. An attentive examination will frequently cause us to discover what at first had been unperceived. The pulse will here be of great assistance, if not in discovering the existence of the phlegmasia, at least in awakening our suspicion. The frequency of the pulse, says John Clarke, is often the first symptom we observe. (P. 82.)

The peculiar alteration of the features, known by the name of the *face grippée*, on which Corvisart insisted with so much reason, is of great importance for the diagnostic, and in some cases it is the most decided symptom of peritonitis.

Thus, the tumefaction, tension, inflation, and pains of the abdomen, as likewise the frequency of the pulse, are not sufficient to authorise us in saying that peritoneal inflammation is present; it is also necessary that these phenomena exhibit certain characters of which I have already spoken. The aspect of the countenance, the epoch at which the accidents occurred, the manner of their appearance, will all be serviceable in removing doubt; it is essential that we be certain as regards the diagnostic, in order not to lose time, always so precious when inflammation exists, or in order that we may abstain from the employ-

ment of means which would be very injurious if this inflammation were not present.

I have designedly neglected to speak of the suppression of the lochiæ, and of the suppression or suspension of the milky secretion, these accidents not being more peculiar to peritonitis than to any other acute disease occurring during the puerperal period.

There are several diseases which may be confounded with peritonitis; such are inflammation of the uterus, ovaria, bladder, kidneys, liver, stomach, and intestines,—an accumulation of fecal matter in the intestinal canal,—rheumatism of the abdominal parietes,—phlegmonous inflammation of these same parietes,—certain nervous colics, pleurisy, and pericarditis.

Inflammation of the uterus is often difficult to distinguish from peritonitis, particularly when the inflammation attacks only a part of this organ. We must then recollect that the pains are much less acute than in peritonitis; their seat is more limited; they are confined to the region occupied by the uterus, which frequently forms, in the hypogastrium, a globular tumor easily detected by the hand, and which we must be careful not to confound with the bladder distended by urine.

Pressure on the abdomen, and the different

motions of the patient, are much less painful in inflammation of the uterus ; the appearance of the face is not the same in the two affections. The total suppression of the lochiæ much more frequently accompanies inflammation of the womb than that of the peritoneum ; when this suppression does not take place, the lochiæ have a very fetid odor, are of a reddish color, sometimes purulent, and impart to the linen a stiffness similar to that produced by starch. (Dance, Inaugural Dissert.)

The introduction of the finger into the vagina, whilst it assures us of the increased size of the uterus, detects a burning heat in its neck, even when the inflammation does not extend beyond the body and fundus. When the veins only of the uterus are inflamed, the pain is less profound, less acute ; it has its seat principally in the inguinal regions ; sometimes it is not even felt ; there is neither tumefaction nor tension of the abdomen ; the *face grippée* is not present.

Chaussier imagined that he had discovered an infallible mode of distinguishing inflammation of the uterus from peritonitis, by the manner in which a cataplasm of flax-seed applied to the bas-ventre acted when taken off. If there was peritonitis, the cataplasm was raised

with facility ; the abdominal parietes became in some sort detached from it and retracted with force. According to doctor Burguet, reporter of the committee charged to examine the memoirs sent to the Concours, M. Dumay attaches great importance to this character, of which I have repeatedly heard Chaussier speak, when I was an *interne* at the Maison d'Accouchement in Paris. I have not made mention of it before, because I have frequently found it to fail ; it has always appeared to me that the particular manner in which the cataplasm became detached, was more inherent in the cataplasm itself, than connected with the disease for which it had been employed ;—that is, it depended on the mode of its preparation, on its consistence, its bulk, and the length of time it had been applied.

The inflammation of the ovaria rarely exists alone. There is almost always at the same time inflammation of the uterus or peritoneum. When only one ovarium is diseased, the seat of the pain, its limited extent, the absence of tension and swelling in the abdomen, and the diminished frequency of the pulse, will soon cause us to recognize the disease. It is sometimes possible to discover through the abdominal parietes the tumor formed by the diseased organ.

I recently observed an instance of this kind in a young lady, who, after being safely delivered of her first child, was attacked by internal hæmorrhage, which produced extreme debility. I was obliged to introduce my hand into the uterus for the purpose of extracting the placenta, which adhered in nearly half of its extent. The milk fever, which did not occur until the sixth day after delivery, was followed by a very satisfactory state of things, when, on the tenth day, without any evident cause, the inflammation of the right ovarium declared itself. A painful point of limited extent was observed in the iliac fossa. In depressing the abdominal parietes, a tumor of the size of a small egg was felt, very painful on pressure, and so moveable that it appeared to escape the grasp of the hand, and in certain moments it could not be felt. There was fever. Doctor Puche saw the patient with me. Emollient cataplasms, frictions morning and evening with a drachm of mercurial ointment produced no relief. Professor Fouquier was called in consultation, and recognised the tumor. Notwithstanding the debility of the patient, it was agreed that six leeches should be applied to the groin; instead of blood, there was a sort of serosity which flowed from the bites of the leeches.

The cataplasms and frictions were continued ; great advantage was derived from warm baths, which were well supported by the patient, and effected the cure.

When both ovaria are affected, it most generally happens that one side is more inflamed than the other, so that the symptoms remain the same. The ovarium most diseased alone fixes the attention.

In the *French Lancet*, No. 7, t. 1, there is a curious case extracted from *The London Medical Gazette*. In comparing the symptoms with the result of the post mortem examination, we will see that it would not have been difficult to have been led into error, and to have imagined the existence of inflammation of the peritoneum, uterus, and ovarium. The above case, which occurred to doctor Lee, is as follows :

On the 18th of last September, Mrs. Somerville, aged forty years, was delivered of her seventh child ; the labor was natural, and continued during three hours. In the afternoon of the 20th she was seized with a violent chill, which was soon followed by an acute pain in the hypogastrium and loins, suppression of the lochiæ, nausea, intense thirst, and a burning heat of the skin. Delirium and slight coma in the evening.

On the 21st, she opened her eyes with difficulty, and did not complain of any pain in the left iliac region. The abdomen was enormously developed, but there was no hardness observed; it was painful on pressure between the right ilium and umbilicus only. The uterus was felt above the pelvis, it was hard and very painful to the touch. The lochiæ and secretion of milk were suppressed. The face was pale, and indicated great anxiety; respiration oppressed; the pulse at one hundred and thirty, weak, and intermittent; tongue white and moist. Castor oil; venesection; not more than ten ounces of blood could be drawn from the arm. Twenty leeches were applied to the hypogastrium, and every four hours calomel and antimony in powder were administered.

22d. Stupor continues and increases; abdomen more distended and painful; respiration accelerated and laborious; pulse extremely rapid, weak, and intermittent. During the evening the patient fell into a profound coma, and died on the morning of the 23d.

Autopsy. The intestines were slightly distended by gas, but we did not discover any trace of inflammation in the peritoneum; nor was there any liquid observed in its cavity. In se-

parating the intestines, the vein of the left ovary, from the uterus as far as its junction with the right emulgent vein, was observed to have nearly the volume of the vena cava. The cellular tissue surrounding it was strongly injected, and adhered closely to its external tunic. The vein was filled with a black and dense coagulum. The coats of the vein were thicker and more dense than natural; the internal was of a light red color, resembling that which enveloped the uterine veins on the left side, towards the fundus of the organ, at the point in which the placenta had been fixed. The tissue of the uterus in this point presented a livid color, singularly softened; it was easily torn by the fingers. The corresponding ovary and tube were likewise soft, of a blackish color, and covered by a coagulable lymph, which adhered loosely to their surface.

The renal vein of the left side was in the same condition as the vein of the ovary; the tissue of the kidneys was soft and vascular. The abdominal viscera were otherwise sound, and nothing anormal was discovered in those of the chest. The brain was not examined.

Inflammation of the veins, ovary, and uterus existed here in a very evident manner.

All the symptoms of peritonitis were remarked, with the exception of the *face grippée*, though it was said the countenance announced anxiety. However, doctor Lee informs us that no traces of inflammation were discovered in the peritoneum. We may contest the correctness of this assertion; for the coagulable lymph, which covered the ovarium and tube, and which adhered loosely to their surface, could be produced only by the inflammation of the peritoneum. But we must admit that this inflammation was excessively limited, and accorded but little with the symptoms. The stupor which declared itself at the commencement justified the suspicion of a dangerous complication.

Cystitis may the more easily be mistaken for peritonitis, and *vice versâ*, as in both affections there is derangement in the urinary excretion. In both cases, the urine may be in small quantity, thick, deep colored, and deposit a whitish mucus. There may be frequent desire to urinate, strangury, dysury, ischury. This resemblance in certain symptoms is only met with when the peritoneum is inflamed at its inferior part. The manner in which the disease attacks the system, and the great frequency of peritonitis compared to cystitis, will be of great service in forming a

correct diagnostic. It is the same as regards the seat and limits of the pain; its exasperation is less in the one case on pressure from the hand and during the different movements of the trunk, at the same time that it is more violent during the excretion of urine, which is always accompanied by more considerable heat and burning.

A simple retention of urine may, at first view, be mistaken for an inflammation of the peritoneum. The distension of the bladder increases the size and tension of the belly, causes pain in its inferior portion, which sometimes is repeated with great violence, at intervals more or less distant, and which is aggravated by pressure and the movements of the body, propagating itself to the loins and the rest of the abdominal cavity. An attentive examination will prevent all error.

Nephritis may also be classed with those diseases which it is sometimes difficult to distinguish from peritonitis, particularly when this latter is only partial. In theory, this error will appear difficult; at the bed-side, it is altogether different. The seat of the pain, its profound situation, its correspondence with a derangement in the course of the urine, its slight increase from pressure before and on the sides, whilst the contrary occurs when we press behind, the ex-

tension of the pain along the course of the ureters, and sometimes down the thigh, are so many circumstances to which we must attend, at the same time that we examine whether the particular condition of the urine, the pain which accompanies its excretion, and the frequent desire to void it, be not connected with an inflammation of the inferior portion of the peritoneum.

Hepatitis can scarcely lead us into error, except in partial peritonitis, when it is limited to the right hypochondrium, or epigastric region. Peritonitis rarely commences in these regions; most generally, the peritoneum which lines them is inflamed only by the extension of the peritonitis, sooner or later after its invasion. The icteric taint of the skin, bilious vomiting, intestinal evacuations of the same nature, and the pain, are all common to inflammation of the peritoneal covering of the liver and of its proper tissue. But in hepatitis, the pain is confined to the liver, whilst, in peritonitis, it extends more or less over the abdomen. In the first case, it is less profound, less acute, particularly on pressure. I do not make mention of the pain in the shoulder, which is not constant in hepatitis, and which is sometimes met with in peritonitis. The peculiar expression of countenance noticed in peritonitis

does not at all appertain to hepatitis, which is very rare in our climate, particularly among women.

Gastritis and enteritis will be distinguished from peritonitis by the difference in the severity, nature, and seat of the pains,—by the appearance and succession of the symptoms,—by the aspect of the face and tongue, and the state of the pulse and abdomen.

A collection of hard fecal matter in the intestines has several times been mistaken for peritonitis, when this collection existed at the time of the after-pains. Almost always, at this time, with a little attention, we will discover a tumor of a form and size more or less irregular, ordinarily very hard, slightly sensible on pressure, and being the point from which the pains commence, which are propagated, at intervals, to the abdomen. The existence of an old, obstinate, habitual constipation, and the absence of fever, will aid us in the diagnosis.

It has been said that rheumatism of the anterior parietes of the abdomen may sometimes resemble peritoneal inflammation. This rheumatism is very rare, particularly during the puerperal period; neither fever nor vomiting accompanies it. Uncertainty can exist only at the commencement; for after a very short time, the different

march of the two affections will easily cause them to be distinguished.

Phlegmonous abscesses, which will render the diagnosis very difficult, may sometimes form under the peritoneum, in the iliac and renal regions. In opening the body of a female named Billotte, whom Chaussier believed to be affected with peritonitis, I found all the viscera of the abdomen and the peritoneum in a sound state. I discovered on the left, beneath the peritoneum, a purulent mass, which extended from the last rib to the bottom of the pelvic cavity. Several inches in width, it occupied the entire cellular tissue, extending along the left side of the spinal column around the kidney; it was situated before and in the substance of the lumbo-abdominal, ileo-abdominal, and ileo-costal muscles; in the pelvis, it was placed between the pre-lumbo and iliaco-trochantinien muscles, descending between the two folds of peritoneum, which constitute the broad ligament of the left side, as far as the border of the uterus, and opening into the vagina by an irregular orifice of several lines in diameter.

The diagnosis is still more difficult when similar abscesses are developed in the substance of the anterior abdominal parietes, and occupy their

whole extent. These abscesses are rare, particularly in the puerperal state, and it is possible that they have often been identified with purulent collections in the peritoneal cavity, isolated, and enclosed in false membranes and the adhesions resulting from them. Ledran relates one example of this in a woman who, indeed, was not *en couches*; but though he assures us that the abscess was seated between the peritoneum and abdominal muscles, yet, from the details into which he enters, we may be permitted to doubt this assertion. The same doubt exists with regard to an observation by Chomel inserted in the *Memoirs of the Royal Academy of Sciences*, in the year 1788; with regard to a similar one by Ruysch, and two others published by Paroisse. The following, by Van Swieten, is not more conclusive. It is entitled, *Suppuratio post partum*.—Mulier circiter triginta annorum, obesa et primipara, post partum febricitavit et dolorem in latere sinistro partis inferioris abdominis sensit vix ferendum. Dedi illi medicamenta anti-phlogistica, magna copia, et coactus fui sæpe dolorem opiatís compescere, Duravit satis diu hoc malum. Incipit oriri tumor in loco, et supurationis aderant indicia. Dedi emollientissi-

mas herbas decoquendas, sic ut decoctum hoc biberet, herbas vero ipsas decoctas loco tumido et dolenti imponeret. Hoc diu continuato, ruptus fuit abscessus, et ingentem copiam puris effudit; dein detergentibus decoctis datis, sanata fuit. (Constit. Epid. t. 1 p. 7.)

Since pathological anatomy has become better understood, and cultivated with greater care, it has been ascertained that nearly all those abscesses, which were supposed to be situated between the abdominal muscles and peritoneum, had their seat in the cavity of this last membrane. The following observation, however, by doctor Moreau, will not permit us to doubt their existence ;

Sauvage, aged twenty-eight, of a vigorous constitution and sanguineous temperament, pregnant for the first time, was delivered by the forceps the 14th of April 1820, the head of the fœtus having continued, during two days, in a bad position at the superior straight. She was rather tranquil during the day; slight colic only was felt; constipation; in the evening the lochiæ began to flow. On the second day, the abdomen was somewhat tense and painful on pressure; pulse natural; face pale; thirst urgent; tongue whitish; constipation; free lochial

discharge. Hydromel, emollient enemata and fomentations were ordered.

On the third day, same state.

Fourth day, abdomen tense; slightly painful; face altered; skin hot and dry; tongue covered with a very thick yellowish paste; thirst intense; pulse frequent and small. Same prescription. In the morning, the lochiæ were suppressed. Towards three o'clock in the afternoon, acute pains in the abdomen; still more acute in the inguinal regions, increasing on pressure; the abdomen tense and enlarged, without being hard; face pale and altered; pulse small, and very frequent. Sixty leeches to the abdomen, twenty to the vulve, and a hip-bath were prescribed. At six o'clock in the evening, one hour and a half after the application of the leeches, the pulse became somewhat stronger, and the patient felt relieved; but this change was merely momentary; the previous symptoms re-appeared with more severity; the face became extremely pale; it was covered, as also were the extremities, with a cold and clammy sweat; hiccough together with very fetid and copious alvine evacuations continued until death, which occurred on the morning of the fifth day.

Examination of the body. The abdomen was puffed up, and the intestines dilated with gas. The peritoneum presented no traces of redness; in the iliac fossæ, where the most acute pain had been felt, a few points of albuminous matter were noticed on this membrane. The same was observed on that portion of the peritoneum which covers the uterus. In this spot, the albuminous layer was somewhat thicker, and the peritoneum exhibited a reddish appearance. A glass of purulent serosity was effused in the excavation of the pelvis; the cellular tissue uniting the peritoneum to the abdominal parietes, was infiltrated with pus; the entire surface of this tissue was covered with it. (Inaug. Dissert. Paris, 1821, p. 35.)

It appears to me evident, that if the patient had lived a few days longer, the pus would have separated the peritoneum from the abdominal muscles. The complication of this phlegmon with peritonitis, rendered the diagnosis exceedingly difficult, not to say impossible. When a similar complication exists, the pulse and appearance of the face alone can prevent us from falling into error. It is also probable that the pains are pulsative, and do not present that violent

and acute increase of action which occurs in peritonitis.

There exists another species of purulent collection, but little known, to which professor Deneux has called the attention of practitioners. It has its seat in the articulations of the pelvis, and particularly in the symphysis pubis. It may deceive us, and cause us to imagine an inflammation of the peritoneum. I have already alluded to it, when speaking of abscesses in the articulations, which are frequently developed during the course of peritonitis. M. Deneux has published the following on this subject :

“A female, aged twenty-six years, of a good constitution, was delivered on the 29th of November of a living child, after a labor of about four hours.

“The two first days every thing was natural ; the secretion of milk occurred on the third day ; but a short time afterwards she was seized with a chill, which continued half an hour, when pains in the abdomen were felt ; during the night of the fourth day the pains were principally seated in the loins and pubic region. She was twice bled from the arm, which, however was not followed by any relief. A warm bath, after the second bleeding, appeared to calm the pains.

“Having entered the infirmary the seventh day after her confinement, she was bled a third time; an emollient cataplasm was applied immediately over the pain, and a ptisan was ordered composed of dog-grass and flowers of mallows sweetened with simple syrup. In the course of the day she had another chill, which was followed by a remarkable acceleration in the pulse. The abdomen was slightly tumefied; the patient complained of pain only in the groins and region of the pubis. These pains rendered it impossible for her to lie down on her side. Cerebral symptoms now began to manifest themselves; on the twelfth day she was attacked by diarrhœa. The patient died on the fifteenth day, having throughout her disease complained of great pain in the symphysis pubis, whenever she moved in her bed.

“We had for some time been satisfied that suppuration had taken place in the symphysis pubis of this female: two similar facts, which occurred a short time before, authorised this opinion. On examining the body, we found the two articulating surfaces of the pubis distant from each other about six lines. There was considerable mobility in the pubis; the articulation was filled with whitish, thick pus; the bones were not completely exposed; a thin fibro-car-

tilaginous layer still covered them. The most superficial of these fibro-cartilaginous layers were not destroyed; they had undergone a remarkable distension, so that they formed the boundaries of a purulent collection, which was thus entirely enclosed in the articulation. It was easy to cause the pus to ascend by compressing the most inferior portion of the symphysis."—(Discourse at the distribution of prizes for the year 1826.)

The principal symptoms of peritonitis are mentioned in this case, and still the disease did not exist—chill, frequency in the pulse, pains in the hypogastrium and groins, augmenting on pressure, &c. The only circumstances which could assist in the diagnosis were—the seat, permanence of the pain, its limited extent, and particularly its aggravation when any motion was imparted to the inferior extremity, or ossa pubis, which were very moveable on each other. The learned practitioner who saw the patient, enlightened by previous facts, was not imposed upon by the above symptoms. The pain, which accompanies the slightest movement of the symphysis, is the most certain means of removing all doubt.

“We observed,” continues M. Deneux, “two examples of suppuration in the symphysis pubis

during the months of December and March ; but the disease was not confined to the symphysis. In the first, the bones of the pubis were separated about sixteen lines ; the point of union had been destroyed behind, and a purulent collection extended beneath the sterno-pubic muscles, and was likewise observed in the left portion of the pelvic excavation. Two days before death, the pus worked its way through the vagina, which presented a round opening towards its left and upper part."

From these details we can readily imagine that the diagnosis was attended with greater difficulty than in the first case, particularly on account of the inflammation, which extended along the anterior abdominal parietes.

Suppuration of the symphysis pubis is not always mortal, as perhaps we might be inclined to suppose from the above facts. To this other causes of death were joined. In the 68th volume, page 75, of the *Journal of Medicine* by Vandermonde, there is recorded a case of a similar suppuration, which terminated successfully. Puncture admitted a free passage to the pus in front of the pubis. Another aperture formed in the vagina ; the patient continued to walk with great difficulty, and during certain motions a

very loud crackling (*craquement*) of the symphysis pubis was distinctly heard.

There is a species of nervous colic which may easily lead us into error at first sight, if we do not employ great caution in the examination of the patient. This colic may manifest itself suddenly, be accompanied with nausea, vomiting, and an acceleration of the pulse. But it does not commence with a chill. Gentle pressure, instead of increasing, tends to diminish the pain. This pain presents much greater variety than that of peritonitis. The exacerbations are extremely violent, alter the physiognomy, increase the arterial circulation, which afterwards becomes more calm, and cause the patient to change her attitude every instant, which cannot be done in peritoneal inflammation. The urine, in this latter affection, is always thick, and in small quantity; it is on the contrary clear and very abundant in nervous colics.

Before terminating this article on the diagnosis, I must allude briefly to pleurisy and pericarditis. I have already spoken of pleurisy when treating of the *Complications*. I will here state in addition, that when it exists alone, it may easily be confounded with inflammation of the superior portion of the peritoneum, and *vice versâ*. In fine,

during pregnancy, the peritoncum may be pushed up as high as the fourth true rib. It does not resume its ordinary situation immediately after accouchement. Should this part of the peritoneum become inflamed, the seat of the pain being behind the ribs, will cause us to suspect the presence of pleurisy, and at the same time remove all idea of peritonitis. On the other hand, a pleurisy may be accompanied by an abundant effusion, which rapidly distends the pleura, and causes it to descend to a level with the false ribs. The pain existing at this point will induce a belief that there is actually peritoneal inflammation.

In pleurisy, nausea and vomiting are rare; these accidents, on the contrary, are frequent in inflammation of the superior part of the peritoneum. In pleurisy, there is most always cough, the respiration is more oppressed, and the movements of the trunk are less painful; so that it is more easy to explore the chest by means of percussion or auscultation. It is rare in peritonitis for sensibility on pressure not to exist below the cartilaginous border of the ribs. The abdomen is usually inflated. The alteration of the features likewise merits consideration. We are much more exposed to suspect a complication which does not exist, than to confound these two dis-

eases together. It must be admitted that, in these cases, the diagnostic frequently presents the greatest possible difficulty.

It is also on account of the peritoneum being pushed up into the thorax, that we may confound its inflammation with pericarditis. The pain produced by peritoneal inflammation may have its seat precisely in the spot in which the pain consequent on pericarditis usually exists. The heart is displaced, and situated much higher than natural. If the peritonitis be very severe, progresses rapidly, and is accompanied by serious accidents, we may confound pericarditis with it, and thus be deceived, unless we pay particular attention to all the particular circumstances. There is scarcely any thing but an examination of the pulsations of the heart, a consideration of their seat and extent, that will furnish us with data capable of discovering the truth. This examination may be made with the more facility, as it does not require that the patient should undergo any change of position.

PROGNOSIS.

Puerperal peritonitis is a disease from which danger is always to be apprehended. According to Delaroche and professor Dugès, it is the cause of death to four-fifths of the women who die in child-bed. This remark, though in part true as regards the hospitals, is, however, somewhat exaggerated when we speak of private practice. One of the tables prepared by J. L. Baudelocque, and embodied in a report made to the General Council of the hospitals in Paris, shows that, of three hundred and six deaths among lying-in females at the Maternité, since the year 1806, including the six first months of the year 1811, one hundred and ninety-five were occasioned by peritonitis.

The danger of this disease will vary according to a variety of circumstances, which I shall now examine successively.

If the patient possesses a good constitution, her chance of recovery will be much greater. It will be less with those who have been debilitated by privations, want of nourishment,

or previous diseases—or who are actually affected with some other affection. Denman states that those women who lose much blood at the moment of their accouchement, are most exposed to puerperal fever, which commonly proves fatal to them. The practice of the Maternité has repeatedly demonstrated the truth of this assertion.

Peritonitis, however, sometimes proves promptly fatal in a female whose pregnancy has been entirely free from accidents.

Hulme remarks that the disease is most dangerous among those females who have suffered from constipation during pregnancy.

A person seized with this fever, having had a costive body during pregnancy, is threatened with more danger than if the belly had been regular. (P. 32.)

The cause of the disease should be especially considered in forming our prognosis. Diseases arising from external causes, are, cæteribus paribus, infinitely less dangerous than those from an internal cause; likewise, when the determinate cause of peritonitis is not very evident, when this phlegmasia is owing to some circumstance of slight importance, we should be reserved in our judgment with regard to its particular

termination. This principally occurs when it reigns epidemically, and it is particularly, and only then, that we feel the justice of the following sentence of Willis : *Febres acutæ puerperarum in mortem ut plurimum cedunt.* (De Febr. Puerper. p. 239.) In the epidemic observed in 1746 by Col de Villars and Fontaine, scarcely one patient escaped out of twenty ; and Hunter makes mention of another epidemic, in which but one out of thirty-two was saved. Tenon states that two species of puerperal fever were recognized at the Hotel Dieu in Paris ; one simple and curable, the other complicated and rebellious, which it was impossible to relieve.

In the tables by Baudelocque, already cited, it is mentioned, that in the month of March, during the year 1808, of thirty-nine females affected with puerperal peritonitis, thirty-six died ; in the six first months of the year 1811, it proved fatal to twenty-three out of twenty-five.

There are few diseases so destructive ; and I know not if the plague, yellow fever, and Indian cholera, are less sparing among those whom they attack. The ravages of puerperal peritonitis are, in truth, incomparably less than those of the diseases I have just named ; but this difference is not so much owing to the severity of the evil, as to

the peculiar circumstances in which these affections are generated, quia minus ubique quam alii ægri numerosæ puerperæ sunt. (Boer. p. 52.)

In this disease, when it prevails epidemically, the peritoneum is certainly the organ most affected, the first which becomes diseased, which seems to justify the name it has received of *peritonitis*. But this is not the only serous membrane in which lesions are discovered after death. The pleura, pericardium, and arachnoidea sometimes present similar derangements, but more especially the pleura; we frequently meet with traces of inflammation in all the serous membranes, or in the greater part of them, at the same time. These cases, very different from those in which dissection discovers no lesion sufficient to explain the cause of death, are in the proportion of ten to one.

The disease appears to me to consist in an alteration of the fluids—especially of the blood—which manifests its existence principally by the inflammation of serous membranes, and which, in fact, exists previously to the inflammation. Notwithstanding the arguments advanced by doctor Legouais, in order to prove that this alteration in the fluids is consecutive, and the result of a purulent diathesis produced by the absorption of

the pus effused in the peritoneum, still I cannot express my astonishment with him "that a number of authors, among others White, Manning, Miller, and Tissot, should have placed among the putrid, jail, and hospital fevers, a disease which, from their description, is evidently puerperal peritonitis." These authors, having observed the disease when it prevailed epidemically, appear to me to have understood thoroughly its nature.

When we take into consideration that the serous membranes are the seat of an abundant exhalation—that an excessive diarrhœa often manifests itself at the same time without any inflammation of the mucous membrane lining the intestinal canal, may we not believe that this is an effort of nature to expel from the circulatory apparatus those heterogeneous principles, which oppress it and derange its march? Since solidism has become the popular doctrine, physicians have abandoned, and turned into ridicule, the opinion of the ancients, who had recognised a conservative effort, and who contended that sometimes a morbid principle was directed to a particular organ, and that nature employed a certain means of freeing herself from this principle. Those practitioners who limit themselves to follow facts, and are willing to consider them for as

much as they are worth, without aiming at any exclusive system, do not suffer their ideas to be changed by the tone of disdain and contempt employed by innovators; they believe that the ancients were not always in the wrong, as certain individuals are apt to imagine; that their opinions, which most frequently were the result of an attentive observation of nature, do not altogether merit the oblivion to which many would wish to consign them.

The danger of peritonitis from an internal cause will be proportioned to the severity of this cause, and to the degree of alteration in the liquids. The more profound the alteration, the more easily is the disease developed, without any external cause being recognised, and the more rapidly does it advance to a fatal termination.

We should not consider all the cases of peritonitis, which prevail in the hospitals consecrated to lying-in women, as arising from an internal cause, or as possessing an epidemic character. The disease is sometimes sporadic, and then it does not present any more danger than in private practice. During the year 1821, there were two thousand, three hundred and seventy-four accouchements in the Maternité at Paris. Fifty-

one woman died. Of twenty-seven cases of peritonitis without complication observed in the month of January, twenty-one were cured; in February, there occurred twenty-six cases, and twenty-one were likewise successfully treated. Results still more advantageous occurred during the remainder of the year; whilst in the preceding and subsequent years the disease was much more frequent, and the cures more rare. However, the patients were attended by the same physician.

Puerperal peritonitis is, therefore, much less dangerous when sporadic, and when due to an external cause, whether in private or hospital practice.

There is, however, an important distinction to be made in peritoneal inflammations from external causes. Those which arise from a solution of continuity in the peritoneum, from the presence of a foreign body in this membrane; in a word, those which succeed to rupture of the uterus, whether from the Cæsarean operation or gastrotomy, are infinitely more dangerous than others; and death, which in these cases frequently ensues, is most generally to be attributed to inflammation of the peritoneum. I have seen the Cæsarean operation performed twice, and death in both instances was in consequence of the

inflammation of this membrane. I have had occasion to observe one case of peritonitis successfully treated, which resulted from the rupture of the uterus and the passage of the child into the cavity of the peritoneum. I think the perusal of this case will prove interesting.

A fruiterer, thirty-nine years of age, and of strong constitution, had five children by her first husband. All these children were very small, and born spontaneously. A sixth, by a second husband, was remarkably robust. It was born after a labor of twenty-six hours, having a profound depression on the left parietal bone. Having arrived at the full term of her seventh pregnancy, this female experienced labor pains on the 27th of June, 1821. A quantity of the liquor amnii was discharged. A short time afterwards the pains continued; but the head of the foetus remained fixed above the superior straight of the pelvis. Several baths, and two bleedings from the arm, produced no alteration. On the 28th, the motion of the child ceased to be felt, and the uterine contractions disappeared. Fever soon followed; the abdomen became the seat of very violent pains, and was considerably swelled. The patient was tormented by nausea and the ejection of black matter. There escaped through

the vulve a fetid and reddish liquid, which soon became thick, and charged with the remains of the foetus and placenta. The vomiting was followed by very fetid alvine evacuations. An odor of the most insupportable character was exhaled from the body of the patient.

Several accoucheurs, who had been successively called in, at first imagined that labor had not commenced. However, the condition of the patient becoming more and more alarming; it was agreed that she should be sent to the Maison d'Accouchement, where she entered the 6th of July, at seven o'clock in the evening, with the following symptoms: face slightly altered; tongue soft, humid, and covered with apthæ; breath fetid; skin burning; pulse small and frequent; strength diminished; abdomen excessively distended, painful on pressure, and sounding on percussion; an evacuation through the vulve of a tenacious, greenish fluid, possessing an infectious odor. The patient, whose mind appeared tranquil, demanded of her attendants that they would deliver her, and send her home. By means of the "toucher," we discovered that the neck of the uterus was soft and dilatable; it admitted very easily the extremity of the finger. No portion of the child could be felt; Madame La Cha-

pelle suspected that it had passed into the abdomen. Wishing to be assured of the actual state of things, she introduced her right hand into the vagina, and finally through the orifice of the uterus; she now discovered her hand to be in a large cavity, where she felt the head of a foetus, with the bones separated from each other. She immediately searched for the feet, which she succeeded in bringing down to the vulve. The extraction of the child was very easy. During this operation, Madame La Chapelle penetrated the peritoneal cavity. She again introduced her hand, and brought away first, a parietal, then a frontal bone, and, in fine, the placenta, which had fallen into a state of putrescence, and considerably reduced in size. I was then requested to examine the extent of the rupture which the uterus had undergone. I easily ascertained that the vagina and borders of the external orifice of the uterus were in a state of perfect integrity. After having passed this orifice, I penetrated still farther through an opening situated in front and to the right. It was evident that my hand was now in the peritoneal cavity, where I distinctly felt the intestines. I carried the extremity of my fingers as far as the umbilicus. The body of the contracted uterus was felt below, and somewhat in

the rear. As soon as my hand was withdrawn, there flowed a stream of fetid liquid, of the color of wine lees. M. Dugès and another person likewise introduced their hand into the abdominal cavity, in order to be well assured of the lesion.

After these different operations, which continued only for a short time, the patient experienced considerable relief; the abdomen, diminished in size, continued, however, painful and inflated; the skin was hot and dry; thirst ardent; pulse small and accelerated; continuance of the diarrhœa. Her mind was perfectly tranquil. She slept several hours during the night, and the next morning all the symptoms were much less severe. The patient refused to drink any thing but wine and water; it was given her. She was permitted to take some broth, and a calming potion was administered. The abdomen, after being lightly rubbed with two drachms of mercurial ointment, was covered with an emollient cataplasm. The day of the 7th passed on well. The abdomen diminished in size; the only pain was seated in the right iliac region. She could lie down on either side; the pulse was still small and frequent; diarrhœa continued. No evacuations through the vulve; mind tranquil. The face was indicative of health, rather than of disease.

The same remedies were continued on the next and following days. The pulse became less frequent, and acquired force; the diarrhœa diminished; and on the 10th of July, fourth day after the extraction of the foetus, there was observed a slight lochial discharge, very fetid, which continued during the fifth day. A quantity of gas escaped through the mouth and vulve. The abdomen was now neither inflated nor painful; the fundus of the uterus was felt at the umbilicus; the patient desired to leave her bed; this indulgence was permitted. She was now allowed to take soups. Every day the patient continued to improve, and on the 15th of July, there was nothing remarked but a great tendency to sleep, and slight sensibility on pressure in the right iliac fossa. The size of the uterus was still considerable. The patient insisted on returning home, where I saw her at the end of fifteen days perfectly re-established, and having resumed her ordinary occupations.

In this case, besides the presence of a foreign body in the peritoneum, we likewise remark the putrefaction of this body. The extreme fetor of all the excretions, proves evidently that absorption of the putrefied matter had taken place. However, as soon as the foetus was extracted, tranquil-



lity returned, and the health became re-established with astonishing rapidity, without the occurrence of any accident capable of deranging the course of nature. How extremely rare are such results! The vomiting and diarrhœa before accouchement, the continuance of the diarrhœa during the following days, should be regarded as the principal means of excretion employed by nature in order to expel the absorbed matter from the system.

In private practice, we sometimes meet with peritonitis produced by an internal cause. These cases are not less fatal than in the hospitals. It therefore becomes highly necessary, when we wish to judge of the danger or probable termination of this disease, to consider well its particular cause.

The progress of peritonitis, and the severity of its symptoms, will furnish important data for the prognosis.

When the disease develops itself soon after accouchement, or the symptoms succeed each other with great rapidity, the prognosis will always be more or less unfavorable. "*When signs of the malady come on immediately from the time of delivery, it is commonly productive of evil.*" (Hulme, p. 32.)

According to Vogel, the state of the bas-ventre decides the life or death of the patient. Abdomen procul dubio meditullium est a quo vita vel mors pendent. Quo magis hoc patitur, quo violentius, pertinacius, dolorosiusque expansum est, eo periculum circumstanciis cæteroquin sub iisdem, pro uti symptomata hæc disparent, decrescens, majus erit. (Man. Prax. Med. § 250, p. 361.) Stark and Horn likewise entertain the same opinion.

According to Hulme and Delaroche, the state of the pulse furnishes the most certain signs for the prognosis.

There can be no doubt that the danger will be greater in proportion as the abdomen is more painful, tense, and inflated; and although the intensity of the pains varies according to the peculiar sensibilities of the individual, yet in certain cases they are so very violent that they announce an imminent termination by gangrene. But the state of the abdomen may present certain changes which would give us but ill-grounded hopes, if we were to attend to these changes alone. J. P. Franck has the following upon this subject: Abdomen ex duro molle factum, respirationem facilem vidi in muliere in qua diarrhœa adhuc urgebat; dolores hinc inde tantum recur-

rebant; ad uterum nulla durities; sed attactu tamen venter dolebat, imprimis super cristam ossis ilei sinistri. Sequebatur ad vesperras somnus pacatus, non uti antehac deliriis perturbatus; copiose sudabat, et, dum evigilaret, sese sublevatam declarabat. Lypothimiæ, quæ prius aderant, cessabant. Sed ad noctem augentur iterum dolores; sequitur vomitus copiosæ bilis; alvus ter quaterve liquida fluebat: abdomen tactu minus dolet et molle tangitur; erat autem septima a partu, et a morbo qui mox ab hoc inceperat, dies. Ructus multi ascendunt per fauces. Dolores hinc inde circa umbilicum violenter admodum insurgunt. Sitis magna. Ad vesperras, pulsus fit plenior, durus et frequentissimus. Sub oculis conspicitur circulus ex livido bruneus valde notabilis. Ad noctem moritur. Ergo nec tumoris evanescencia securam semper reddit puerperam. (Nolte, p. 10.)

I believe, with Hulme, Delaroche and others, that there are no signs more infallible than those arising from the state of the pulse.

“By carefully attending to the pulse and respiration, says Hulme, much may be learnt respecting the fate of the patient laboring under this disease. If the pulse be very quick, and the respiration frequent and small, it portends great

danger. If, on the contrary, the pulse become slower, the breathing more free and full, it is a certain sign of a change for the better. The degree of these is to ascertain the degree of danger, or safety of the patient. A quick pulse, singly considered, is at all times a dangerous symptom, and the more so, if very weak and small. The contrary indicates safety. If the pulse does but once begin to become daily slower and slower, as from one hundred and twenty-eight, to one hundred and twelve, then to one hundred, or the like, it is to be esteemed as one of the best signs. But if it continue at the same number, or rather quicker, it always threatens danger; or if it be found changeable, being one day quicker and another day slower, it is ever to be suspected. Nay, so infallible is the beat of the pulse, with respect to number, that though all the other symptoms should abate, and the disease seems to be gone off, yet, if the pulsations do not decrease in proportion, a relapse, or some other disorder, is to be feared.” (P. 31.)

The preceding passage is from the work of Hulme, a practitioner of great experience. Delaroché expresses nearly the same opinion.

“In all the stages of the disease,” says he, “but particularly at the commencement, the state

of the pulse is one of the principal symptoms on which we are to found our prognosis. When an individual is affected with puerperal peritonitis, and the pulse one hundred and twenty or thereabouts in a minute, she is to be regarded as in a very critical condition; but as long as it continues strong and full, the danger is much less than when it becomes small and weak. If, after the first remedies, instead of diminishing, its frequency augments, or if it diminishes only to increase soon afterwards, we should look upon the disease as very dangerous. There is but little hope when it beats beyond one hundred and thirty in a minute; if it reaches one hundred and forty, it is most always a presage of death, particularly if, with this degree of frequency, it is small, weak, and concentrated.

“If, on the contrary, the frequency of the pulse should not be considerable, or if it diminishes gradually, it is a favorable indication; but we must be extremely guarded, when it increases and augments alternately. Such is the importance that I attach to the state of the pulse, that, although all the other symptoms should appear in some measure ameliorated, still I cannot believe that the danger is less, as long as the pulse does

not likewise exhibit an alteration for the better." (P. 34 and 35.)

Vigarous participates in the opinion of Delaroche on this subject, and Alph. Leroy observes: "The frequent pulse is so characteristic a symptom, that, though all the alarming accidents should diminish, if the pulsations do not also diminish in frequency, the danger is by no means less imminent. The examination of the pulse serves, in this disease more than in any other, to establish a favorable or fatal prognosis." (*Hist. of Pregnancy, &c.* p. 145.)

I have but little to add to what has just been said by the practitioners above cited. In their observations I find a faithful exposition of what I have frequently remarked. I am of opinion that the slackening of the pulse and its development will alone suffice to found hopes of recovery, when even there is no improvement in any of the other symptoms of the disease.

A slight constipation is not an unfavorable symptom at the commencement of peritonitis; I am even inclined to regard it as a good indication, when I recall to mind that, in the year 1821, at the *Maison d'Accouchement* in Paris, where the disease yielded with facility to the remedies em-

ployed, nearly all the females had been more or less affected with constipation. However, should it prove obstinate, and resist the proper remedies made use of to overcome it, we will have reason to apprehend serious consequences. "In those cases in which the remedies are found insufficient," says doctor Legouais, "I am inclined to believe that the evil has taken such deep root that it is beyond the combined efforts of nature and art." (Inaug. Dissert. p. 59.)

Diarrhœa is a much more dangerous symptom than constipation. When it is very abundant, it is soon followed by a fatal termination, especially if the abdomen becomes puffed up, and the pulse weakened. "*But if, after two evacuations by stool, whether procured by nature or art, the pulse should not become slower, it is to be reckoned as one of the most dangerous symptoms.*" (Hulme, p. 32.)

Leake remarks, that when diarrhœa is accompanied by swelling of the abdomen, it is almost always a fatal sign, particularly if it should manifest itself immediately after the pains have begun to occupy the epigastric region.

An abundant diarrhœa has always appeared to me to be connected with a profound alteration of the economy; and whether we regard it as a re-

sult of this alteration, or whether we look upon it as an effort of nature to expel a deleterious principle, it will not justify a favorable prognosis.

Diarrhœa may, however, in certain cases, furnish well-grounded hopes; but in such case, it is necessary that it be in small quantity; that, a short time after its appearance, the pains in the bas-ventre diminish, as likewise the tension and inflation; that the pulse become less frequent, the agitation diminished, and that after each evacuation the patient experience a marked relief. "*A diarrhœa coming on at the beginning, if followed by a slower pulse, prognosticates safety.*" (Hulme, p. 32.)

Spontaneous vomiting, often trivial at the commencement, sometimes even advantageous, according to Tenon, is always dangerous when it declares itself at an advanced period of the disease, and the matter ejected possesses a brown, green, or black color. If it should succeed to hiccough, says Tenon, it portends certain death. "*A frequent discharge by vomit, during the course of the disease, of a green or black color, generally is mortal.*" (Hulme, p. 34.)

"Vomiting, and even simple nausea," says Delaroché, is always an unfavorable symptom, particularly after the fever and abdominal pains have

acquired a certain degree of intensity. Under these circumstances, the slightest sickness at the stomach, even that which appears to be excited by the drink, and which the patient attributes to a simple repugnance to some particular kind of liquid, should render us suspicious. It is soon observed, that in changing the drink for some other, we have gained nothing; that which was the most acceptable to the patient soon produces the same effect; the nausea becomes gradually more frequent, and the efforts to vomit are always more violent. These efforts, frequently repeated, and accompanied by the ejection of green or black matter, generally indicate a fatal termination. The vomiting sometimes occurs simultaneously with the fever, of which it is then merely a symptom; in this case, it is not so unfavorable, and is readily soothed by the first remedies employed." (P. 38.)

I have thought proper to cite this passage entire from Delaroche, for it exhibits a correct outline of what is most usually observed.

Hulme attaches great importance, and justly too, it appears to me, to the particular state of the respiration, as has already been seen when speaking of the pulse. There exists an intimate connection between the respiration and

circulation. If the pulse becomes slow, the respiration will be freer and less accelerated, and *vice versâ*. What I have said of the one applies to the other.

The alteration of the features merits some attention. This alteration is not to be attributed entirely to the violence of the pains, for it is observed to continue, when the pains are no longer complained of; the danger will be greater in proportion as the *face grippée* is more evident.

The urine, transpiration, and different eruptions afford but slight data for the prognosis. It is, however, worthy of remark that, towards the end of the disease, a partial sweat, limited to the face, neck, and chest, is a bad symptom. Death is frequently preceded by a similar perspiration, which is then cold and clammy. On the contrary, a general perspiration accompanied by the development and slackening of the pulse is sometimes favorable; Delamotte and Planchon have remarked this fact.

Cutaneous eruptions, which sometimes manifest themselves at the commencement or during the course of peritonitis do not, of themselves, exert any prejudicial influence. When they occur after the disease is advanced, there exist other indications of much greater value.

Delaroche remarks that the apthæ, which sometimes cover the entire of the throat, announce most frequently a prompt and fatal termination of the disease. On this point my experience does not accord with that of Delaroche. I have several times seen apthous eruptions appear during the course, or towards the end of peritonitis, and cover the tongue, palate, internal surface of the cheeks and pharynx, and yet the disease terminated successfully, the females having become perfectly re-established.

The appearance of the milky secretion, the return of the lochiæ, which have been suppressed, or only diminished, are in general encouraging symptoms. We should, however, be careful not to promise, after this alone, a favorable termination. If a notable amendment should not at the same time be observed in the other symptoms of the disease, and especially in the state of the pulse, we must not indulge in too favorable anticipations.

The extent of the phlegmasia should certainly be well considered in appreciating the danger of the disease. The less extensive the inflammation, of course, all things being equal, the less will be the danger. When the totality, or the largest portion of the peritoneum is inflamed, there will be but little hope of recovery.

We should likewise take into account the length of time the disease has continued, the means employed, and the results obtained from them. *Peritonitidis purulentæ, et illius imprimis quæ puerperis insideatur, pericula summa et vix superanda sunt, cum prima morbi principia pro doloribus partum naturaliter subsequentibus, aut pro lacteæ sic dictæ febris effectu habita, negligantur.* (J. P. Franck.)

When several days have passed without the proper remedies having been administered, or even when, after being employed with care, so far from obtaining any amendment in the symptoms, particularly in the state of the pulse, and in the pain and swelling of the abdomen, we observe them to increase, we may almost despair of the patient, and expect an approaching death.

So far, I have insisted more upon the symptoms taken separately, than as presented in their aggregate character. I will now observe that it will be a very favorable indication, if the pains diminish simultaneously with the swelling of the abdomen; if this latter become yielding, the tongue moist, the pulse less frequent, and the patient enabled to move with greater ease. On the contrary, the sudden cessation of the pains, with continuance of the swelling, the acceleration and

irregularity of the pulse; paleness, and a more marked alteration of the features; coldness of the nose and extremities; the livid color of these parts; a cold, clammy sweat, are indications of imminent death, notwithstanding the calm the patient may appear to enjoy.

The complications of puerperal peritonitis will render the disease more alarming, in proportion as they are themselves more dangerous. The following, however, is an instance of a cure, taken from the work of professor Andral, though there had been observed successively or simultaneously, symptoms of inflammation of the uterus, peritoneum, arachnoidea, and intestines, after a laborious accouchement.

“A female, 27 years of age, was delivered at full term, the 10th of April, 1822. The labor was long, and very painful; until the sixth day every thing was perfectly natural. On the seventh day the lochiæ were suppressed; the breasts suddenly dried up; a severe chill declared itself, and was soon followed by a burning heat. On the eighth, ninth, and tenth days, the same symptoms; sensation of weight in the hypogastrium. We saw the patient, for the first time, on the eleventh day after her confinement, and the fifth after the appearance of these ac-

cidents. The face was pale, and the eyes surrounded by a considerable bluish circle; the lochiæ had been arrested for five days. The abdomen was soft and indolent. A tumor, which appeared to be the uterus, was felt above the pubis, and its axis was parallel to the symphysis. Pressure on this tumor excited pain. The neck of the uterus was tumefied, soft, hot, and very sensible to the touch. The patient complained of great weakness in the groins, and particularly in the right; there was considerable fever. The only alterations presented in the digestive functions were slight bitterness of the mouth and a white tongue. This patient was considered as affected with acute inflammation of the uterus. Twelve ounces of blood were taken from the arm; twenty leeches applied to the vulve; emollient fumigations directed towards the neck of the uterus; warm bath and diet. The next morning, the sixth day, same state. Simple diluting ptisans were ordered. A few hours after my visit, the hypogastrium became the seat of an acute pain, which soon extended to the different points of the abdomen, and in the evening, occupied the entire of this cavity. On the seventh day we noticed the various symptoms of peritonitis; abdomen tense, very painful, even when not

pressed upon, and becoming more so by contact; nausea; pulse extremely frequent, and less strong than on the preceding days; skin dry and burning; thirty leeches to the abdomen. During the day several ejections of a greenish bile were observed. On the eighth day, the second from the commencement of peritonitis, the same symptoms continued, and there was, in addition, a considerable inflation of the abdomen, which appeared to be caused by the distension of the transverse colon with gas. Twenty new leeches to the abdomen; an emollient injection, with the addition of six drops of the essential oil of aniseed; emollient fomentations; veal water.

“On the ninth day the abdomen was not so tense, and much less painful; however, its sensibility was such as to forbid an examination of the tumor in the hypogastrium. But new symptoms announced the existence of another phlegmasia, that of the gastro-intestinal mucous membrane; the tongue, nearly natural up to this time, had now become red and smooth; ardent thirst; several liquid evacuations, each of which was preceded by a griping pain, which the patient distinguished from the habitual peritoneal pains experienced during the night. Fifteen leeches were applied to the abdomen; ptisan of barley and gum water; diet continued.

“ On the tenth and eleventh days, tongue dry ; teeth dark colored ; continual bleeding of the lips ; abundant diarrhœa ; intense fever ; acrid heat of the skin : during this time, gradual diminution of the symptoms of peritonitis. On the eleventh day, two blisters were applied to the legs. In the evening, fifteen hours after the application of the blisters, the patient complained for the first time of a violent pain in her forehead, and in the night she became delirious. On the twelfth, the tongue was as dry as a piece of parchment ; the delirium continued ; the patient pronounced some words, but articulated badly ; when a question was addressed to her, she did not reply, but placed her hand on her forehead with an expression of pain. Ten leeches were applied behind each ear ; blisters dressed with cerate. On the thirteenth and fourteenth days, she was in a most dangerous state ; convulsive movement of the limbs ; sardonic laughter ; delirium alternately tranquil and furious ; remarkable taciturnity ; at intervals, a disposition to commit suicide ; she said she wished to kill herself as a punishment for a crime she had committed, and endeavored to seize upon the objects near her in order to execute this design. At other moments she imagined herself conversing with

the devil ; she declared she was burning in hell, &c. &c. She continued in this deplorable situation from the fifteenth to the seventeenth day. Daily application of leeches behind the ears. But what is very remarkable, during this period, the tongue assumed nearly its natural character, and the diarrhœa became arrested. From the seventeenth day, a general amendment was perceptible ; the delirium ceased ; the febrile action diminished, and on the twentieth day, the patient was convalescent.

“ This patient must have possessed extraordinary strength to resist the causes of destruction which so seriously menaced her ; any one of the phlegmasiæ with which she was affected would have sufficed to produce rapid death in many other individuals ; she, however, supported herself throughout, and recovered.” (Clin. Med. t. 4, p. 582.)

I here terminate my observations on the prognosis, with this sage remark of the father of Medicine : *Acutorum morborum non omnino tutæ sunt prædictiones, neque mortis, neque sanitatis.* (Sec. 2, Aph. 19.)

LESIONS,

OBSERVED IN THE PERITONEUM AFTER DEATH.

These lesions vary according to the severity, duration, and termination of the disease.

When peritonitis is very intense, and terminates fatally in eighteen, twenty-four, thirty-six, or forty-eight hours, we observe a general redness of the peritoneum, whether this redness be owing to an injection of the sub-peritoneal capillary vessels, or whether it have its seat in the serous membrane itself; along with this redness, we will remark one or other of the following states :

1. Either the peritoneum is smooth, and appears dry :—but if we examine it more attentively, we will find it covered by a thin layer of a purulent, whitish, demi-concrete matter ; this matter frequently is not distinctly perceived, except at the points in which two of the intestines are in contact, and after these two intestinal portions have been removed from each other. Then, as professor Chomel has very justly remarked, “the purulent matter presents itself under the aspect of a prismatic band, the anterior flattened surface

of which corresponds with the parietes of the abdomen, and the other two surfaces, slightly concave, are supported upon the two contiguous intestines, and terminate between them by a rounded angle."

2. Or the peritoneum is humid, and a small quantity of thick, reddish fluid is observed in the hypogastric region. I have never met with an exhalation of pure blood, or of clots, as Leake, and more recently MM. Broussais and Scoutteten assure us they have witnessed. Sometimes several portions, more or less extensive, of the peritoneum, and a part of the epiploon, present a greyish brown color, are detached by the slightest contact, and emit a cadaverous odor. There is then evidently gangrene.

When peritonitis has continued several days, the redness of the peritoneum is ordinarily less distinct, less general; in many spots this membrane presents a brownish color, resembling marble, without on this account there being gangrene. We often observe in other points a marked redness, sometimes very regular, principally on the small intestines, and towards those parts which are near the mesentery.

It is not often the case that the peritoneum is covered by a layer of homogeneous pus, of one

or two lines in thickness, as I had occasion to observe in the following instance :

On examining the body of a female named Demonasse, thirty-six hours after death, I noticed a double effusion in the pleura, much more abundant on the left side. The left pleura was thickened, greyish, and granulous in its whole extent ; the right presented similar alterations only on the diaphragm. The abdomen contained about a pint of liquid, of a light green, mixed with a quantity of small flocculent particles. All the viscera were covered with liquid pus, most abundant on the diaphragm, liver, spleen, uterus and its annexæ. Pus was likewise observed in several of the uterine veins. The peritoneum presented a slight red color.

Much more frequently this membrane contains, in its cavity, a considerable quantity of fluid, sometimes clear, of a yellow or greenish citron—sometimes opaline. This quantity is, however, never sufficient to distend the abdomen to the point which it usually attains. The distension is occasioned by a gas, which I am not certain has ever been analyzed ; this gas may sometimes be enclosed in the peritoneal cavity, but it is more commonly found in the intestines.

In the midst of this liquid, flocculi are observed, more or less abundant, which have for a long time been regarded as composed of albuminous matter, but at the present day they are said to be fibrinous. Their size is variable. Their quantity presents great differences, which we can only refer to certain individual dispositions, this quantity sometimes being much more considerable in a slight inflammation than in one more acute, and *vice versâ*. They are ordinarily found in great abundance on the ovaria, fallopian tubes, broad ligaments, and the fundus of the uterus, which they often cover to a great extent, and to which they sometimes strongly adhere. Doublet calls them "collections of coagulated matter, floating here and there, and adhering to the intestines."

I opened the body of a female, named Dubois, twenty-four hours after death. I found the pleura covered with fibrinous concretions, whitish, and rather solid. A purulent effusion was observed in its cavity; a similar one existed in the abdomen. The liver, spleen, epiploon, and small intestine were covered in nearly the whole of their extent with yellowish concretions, of slight consistence; so likewise were the ovaria and uterus, which, with this excep-

tion, presented nothing remarkable. The mesentery was red and thickened. Several of its ganglions were tumefied. Considerable redness was remarked in different points of the small intestine, the interior of which was perfectly sound.

At other times, these particles extend from one point to another, circumscribe certain parts, and establish in the peritoneum several small cavities, which finally have no communication with each other. At a later period, when they become organised, which sometimes occurs at the end of twenty hours, (Andral, Clin. Med. t. 4, p. 517,) these flocculi, soft, and offering but little resistance, acquire a solidity equal to that of the peritoneum, and form like it serous membranes.

In the midst of the fibrinous particles floating in the effused liquid, we sometimes observe detached portions of the epiploon, which have become gangrenous. They possess a greyish color, break under the finger, fall into decay, and exhale a remarkably putrid odor. Leake cites several examples of this kind. I have likewise observed a few. However, I have not noticed, as he has done, bloody clots issuing from the vessels of the epiploon: I once had an opportunity of remarking small collections of coagulated blood in this serous covering.

We must not confound gangrenous portions of the epiploon with the fibrinous flocculi, as Morgagni seems to have done.

The liquid and flocculi are sometimes replaced by a greyish turbid matter.

In opening the bodies of women, in whose peritoneum there existed an abundant effusion, I have frequently been struck with the enlarged size of the small intestine, which nearly equalled that of the large. It appears that, on account of its having remained in a copious fluid, its tissue became relaxed, and thus produced this augmentation of volume. Sometimes these intestines were distended with gas, at other times, they contained but a very trifling quantity.

When death occurs at a later period, it may happen that there is no longer any effused fluid. The fibrinous particles become organised, and are converted into living membrane, sometimes of considerable thickness, particularly in certain spots. It does not belong to my subject to explain how, after having gradually acquired greater consistence and adhering more intimately to the peritoneum, and exhibiting itself under the form of a body divided into an infinity of small cells communicating with each other, this deposit of white fibrinous matter soon presents red

points—yellow, reddish striæ—which elongate and anastomose together, assume the appearance of vascular cords, at the same time that the effused liquid is absorbed, and the thickness of the fibrinous layer diminished, which afterwards forms a thin, transparent membrane, resembling those of the serous kind, and which, according to the opinion of doctor Villermé, confirmed by several *post mortem* examinations, finally disappears in great part and sometimes entirely.

I return to the examination of the abdomen. The newly formed membranes often cause every species of intestinal circumvolution to disappear. The intestines, agglomerated, adhering closely to each other and to the neighboring parts, form a rounded mass, which, in cases of recovery, may be mistaken for a tumor of an extraordinary nature, as will be seen in the following observation, which I extract from the *Anatomical History of Inflammations*, by Dr. Gendrin.

“A young lady, aged twenty-three years, was secretly delivered in 18 . . . The accouchement was at the full term, and presented no difficulty. The patient, obliged to conceal herself, was unable to take the precautions necessary to ensure recovery. Obscure pains continued in the abdomen; she was troubled with difficult digestion,

and sometimes even vomiting. The abdomen was habitually tense, and painful on strong pressure. The menses were not re-established; heat was soon manifested during the night, general emaciation progressed, and the extremities became œdematous. The antiphlogistic remedies were administered: baths, severe regimen, and the application of cauterly to the thigh had no effect in preventing a serous effusion in the abdomen. The same treatment was, however, persevered in with the addition of the sulphur bath, recommended by professor Alibert. In fine, after eight months of suffering, her re-establishment was complete; the abdomen had resumed its natural size, digestion was restored, and she gradually acquired her usual *embonpoint*. A circumscribed tumor was felt in the abdomen, which occupied the entire right side of this cavity, terminating above in the right hypochondrium, and below in the pelvis. This tumor was indolent and immoveable, on whatever side the patient reclined. By means of the "toucher," it was ascertained that the uterus occupied its natural position. In endeavoring to raise this viscus, no motion was imparted to the tumor. As for the rest, all the functions were in perfect order; the menstrual evacuation had become regular. We were of

opinion that this tumor had its seat in the mesentery; and that it had been developed there during the chronic peritonitis. Professor Dubois, who examined the patient, was likewise of this opinion. M. Portal referred it to the liver. The sulphur bath and the use of the waters of Vichy, continued for two months, did not produce any diminution in its size. This young lady married in 18..; she had an excessively distressing pregnancy, during which the first symptoms of pulmonary pthisis were manifested, of which she died three months after the birth of a very large and healthy child.

“On opening the body, we found the right lung covered with tubercles, and presenting two cavities, each of which was large enough to contain an egg. The left lung was likewise filled with tubercles, the greater part of which had suppurated. When we cut into the abdomen, we found this cavity containing a large tumor, along the whole extent of which was remarked a yellowish white membrane, of rather a dense character, which appeared to cover it. This tumor adhered superiorly to the entire concavity of the liver, and comprehended in its substance the stomach, small intestines, colon, and cœcum; it was lost in the pelvis, between the rectum and

uterus, from which it was easily distinguished, being attached to them only by a loose cellular tissue. In dissecting the tumor, we discovered that it was formed by the intestines agglutinated to each other, and enveloped by a white and very dense cellular tissue. The epiploon, which extended over the surface of the tumor, had acquired great density; neither tubercles, abscess, redness, nor any species of effusion, were observed in this tumor. The peritoneum, which was white on the abdominal parietes, the convexity of the liver, and the descending colon, possessed all its natural anatomical characters. The tumor presented certain depressions, produced by the circumvolutions and folds of the intestines." (T. 1, p. 258.)

Similar errors in the diagnosis have been repeatedly committed; and another example of this kind from Morgagni, is recorded by Dr. Gendrin. An exact knowledge of the antecedent disease would do away with all error, or at least render it much less frequent.

In the midst of the agglutinated intestinal mass we occasionally observe cavities containing a liquid sometimes clear and limpid, and at other times purulent. We do not distinguish this at the first view; and it is only after having penetrated the

stomach and intestines that we observe these viscera to have been affected. "When the scalpel is directed by hands but little accustomed to anatomical researches, it is not rare that it reaches the vertebral column, when the operator imagines that he has not penetrated the peritoneal cavity, which has disappeared—a gross error, but which may, to a certain extent, be explained by the emaciation of the abdominal parietes and atrophy of the intestines." (M. Chomel, Dict. Med.)

The whole peritoneal cavity has, therefore, disappeared. We sometimes remark in the substance of the false membranes, small collections of a concrete purulent matter, which are analogous to tubercles; in other subjects, there are real tubercles developed in the sub-peritoneal cellular tissue—sometimes whitish, pisiform granulations, which have been observed, and well described, by Bichât, Bayle, and M. Broussais.

Perforations occasionally exist in the peritoneum, which, by extending to other parts, establish a communication with the exterior, through the abdominal parietes, or with the intestinal cavity, and even the bladder. A similar perforation has been known to establish an anormal communication between a small and large intestine.

The communications between the peritoneal cavity and other parts most usually take place by means of a narrow, sinuous canal, more or less oblique, so disposed that the effused fluid may easily flow, whilst it would be impossible to cause this or other liquids to return through the same canal.

Such are the alterations of the peritoneum resulting from inflammation. To these are frequently joined lesions in the neighboring parts; thus in epidemic peritonitis more particularly, we frequently find pus in the veins of the ovaria and uterus. These veins augment in size and thickness; their internal membrane is often very much inflamed. Under certain circumstances, the tissue of the uterus itself is inflamed, softened, and interspersed with small purulent collections; sometimes a gangrenous odor is exhaled; at other times, the ovaria, either in totality or in part, are tumefied, red or brown, greyish, soft, sometimes converted into a jelly, a greyish homogeneous pulp, which escapes as soon as their external envelope is torn; this envelope offers but very slight resistance.

During several epidemics, gangrenous sores have been observed in the neck of the uterus, in

the vagina, and towards the external parts of generation, without any thing having occurred during the operation of labor which could explain this accident. Doctor Ozanan observed cases of this nature at the hospital of Milan in 1810; I noticed several instances of them at the Maison d'Accouchement in Paris, during the year 1827.

It is not uncommon to remark pus abundantly distributed throughout the peritoneum, or collected sometimes in very considerable masses. In examining the body of a female, named Blondel, I found in the peritoneal cavity a whitish fluid together with fibrinous flocculi. There was considerable pus effused in the ovaria and surrounding cellular tissue, and particularly in that lining the iliac fossæ. I observed it likewise in several of the uterine veins on the right and left side. I remarked a much more considerable purulent effusion in the pleura of the right side: this membrane presented a granulous, greyish aspect; the lungs were hard and compact; their tissue was of a reddish color. When cut into, a sanguineous fluid mixed with pus issued from them.

Lesions of other organs than those situated in the abdomen, and especially of the pleura,

are very common. It is not my intention to examine them in this place. I will merely remark that they vary according to the complications and the genius of the epidemic—to use an expression which may perhaps sound awkwardly in the ears of certain physicians—but which, however, is authorised by the highest antiquity.

I shall now speak of the matter found effused in the peritoneum.

For a long time it was imagined that this matter was nothing more than milk, which, when collected in the bas-ventre, formed a deposit, and there generated inflammation. The resemblance of the fibrinous portions to the caseous part of the milk, and of the effused fluid to the whey, gave rise to this opinion, which, as is evident, is based only on external appearances. Mercurialis, Willis, but particularly Puzos, Levret, Selle, and Doublet have propagated this opinion, which for many years was generally admitted in France. Notwithstanding the existence of a similar matter, observed in peritoneal inflammations among men and children, it was nevertheless regarded as milk. *Quod si ergo hæc cum illis quæ de hydrope pectoris et ascite monui comparamus, nempe etiam sæpissime in qualibet ætate, tam in feminis quam in*

viris, tale foetens, magis vel minus crassum, viscidum, purique cocto simile fluidum invenire, tum non video quomodo nonnullis faceta cogitatio metastaseos lactis in febre puerperarum in mentem venire et seriusus Germanus jocum Gallorum tanquam veritatem gnoscere potuerit. (Walter, p. 37 et 38.)

It was not until after the experiments of Bichât on the serous membranes, that the opinion of milky deposits was abandoned. Lænnec, Bayle, and professor Dupuytren have continued these experiments; they made, according to Schwilguè, a new analysis of the effused liquid, taken from women who had died of puerperal peritonitis. This analysis, repeated a short time afterwards in France by doctors Deserin and Gasc, in England by Pearson, in Germany by Jaquier, Kastner, &c. was not favorable to the theory of milky metastasis. As incomplete as this analysis may appear at the present day, it demonstrates perfectly well the difference which exists between milk and the liquid effused in inflammation of the peritoneum during the puerperal period; it entirely destroys the opinion of the German chemist, Hermbstadt, who, in 1780, having been invited by Selle to examine this liquid, stated that the white matter was imperfect milk, containing a superabundance of alkali.

Chaussier was accustomed, in his lectures, to exhibit, by a very simple process, the difference in the nature of the two fluids. The one, the milk, is acid; the other is alkaline, which he proved instantaneously with the aid of a paper colored with the tincture of turnsole.

The matter of serous effusions was again analyzed in 1822 by J. Davy, and in 1826 by M. Lassaigne; these skillful chemists discovered that the liquid part had a close analogy to the serum of the blood; and that the solid portion was composed of fibrin, with a very small proportion of albumen.

Doctor Hervez de Chegoin has recently called attention to the subject of milky metastasis. The caseous part of the milk, he states, was observed in the urine of a female newly delivered. The analysis of this urine is too imperfect to shake the opinion now prevailing against the theory of milky metastasis. Had it even been exact, still it would have proved nothing. In fine, it is remarked in the *Annals of Chemistry*, that a young woman, twenty-six years of age, in perfect health, having been for several years a widow, and never having been affected with the milky disease, discharged, since her widowhood, white urine, resembling milk, possessing an odor and

taste nearly similar to those of ordinary urine, though there was not the least appearance of milk in the mammæ. Experiments made with this urine proved that it owed its color to a portion of pure caseum held in solution.

The saccharine matter exists in all the different kinds of milk, in that of the woman as well as in that of the cow, goat, ass, &c. The proportion alone differs. Hitherto, no one has observed it in the effusion which takes place in the peritoneal cavity during puerperal fever.

Several authors have remarked that this effused matter possesses deleterious properties. I have heard, says John Clarke, (p. 102,) that, certain practitioners having been accidentally wounded in the hand in opening the bodies of women who died of this disease, they had their whole upper extremity and sub-axillary glands tumefied, and were affected with a fever of a putrid character. Chaussier tells us that he has known dangerous effects result from wounds with the scalpel in opening the abdomen after puerperal peritonitis. Professor Deneux mentioned to me, that in making for the celebrated Baudelocque a preparation of the abdomen of a female who had fallen a victim to peritoneal inflammation, he had the misfortune to prick the

index finger of the right hand. He neglected it, and it was followed by alarming symptoms. His life was endangered, and for several days Desault despaired of being able to save his arm. But, thanks to the skill of this distinguished surgeon, the danger was removed by degrees, and there remained only a slight deformity at the extremity of the finger.

This deleterious inoculation will often take place when the epidermis is only raised; and it frequently happens that, without being conscious of it, the wound is inflicted whilst sawing or breaking the ribs. Cauterization, as is well known, is the best means of preventing any dangerous consequences.

The effused matter is so irritating, that when we make several successive dissections of females who have been affected with puerperal peritonitis, notwithstanding the greatest possible cleanliness, the hands will become covered with large pimples, which inflame and suppurate; it is very difficult to get rid of them. Sometimes a swelling succeeds to these pimples; it is not painful, but it continues for a long time.

PROPHYLAXIE.

Morbum cito, si possibile, esse præveniendum, et jam existentem nullis esse effrænandum remediis. (Bolsius, Inaug. Dissert.) This assertion, which appears to me too absolute, is still true in a great number of cases; it shows the care necessary to be taken in order to prevent puerperal peritonitis.

The prophylactic treatment of a disease reposes essentially upon an exact knowledge of the causes by which it is produced. I have entered into a lengthened detail of the causes of puerperal peritonitis. It is not my intention to give in this place a minute description of the caution to be observed by females towards the end of gestation, during labor and the puerperal period. The object of these cautions being not only to prevent puerperal peritonitis, but likewise to oppose the development of any other disease and to procure a prompt re-establishment, it would be wandering from my subject to examine them in all their details. Proper diet, a

chamber sufficiently aired, a mild temperature, a bed that is not too heating, open bowels, cleanliness, diluting drinks, repose of the mind and body: such are the principal means to be employed during the puerperal state.

When treating of the causes, I adverted to the danger of constipation. I will add the following passage from Delaroche to what I have already said upon this subject: "The weight of fecal matter, the volume of which is sometimes very considerable, may cause a dangerous irritation of the intestines; it always occasions an unpleasant sensation of heaviness and swelling, which are relieved by a single evacuation. On this account, when a female in this situation does not go to stool, it is necessary, on the day after her accouchement, to administer a simple lavement, and to repeat it every day, until the natural functions are established. This practice, notwithstanding the prejudice against it, is warranted by experience, and is never accompanied by any inconvenience which could possibly balance its salutary effects.

"With the exception of this last precaution, I do not know of any means which could be properly called prophylactic, and recommended as necessary to prevent the formation of puerperal fever." (P. 254.)

We see the great importance Delaroche attaches to the use of lavements. Without regarding them as the only safe remedy against this affection, I am entirely of his opinion with regard to the danger of constipation.

Several authors have recommended laxatives as proper to prevent the development of peritonitis; but experiments made at Stockholm do not justify the employment of these remedies. Professor Cederskiol, desirous of understanding their effects, administered laxatives to one hundred and sixteen females after their accouchement; among one hundred and eight other women recently delivered, he employed lavements. Thirty-two of the former were affected with peritonitis, of whom five died. Among the latter, there were eighteen cases of peritonitis, which proved fatal only to one. (Acts of the Academy of Med. of Sweden, t. 10, ann. 1825.) I am not sufficiently acquainted with the details of these experiments to affirm that the women who were subjected to them were placed precisely in the same circumstances. It, however, appears satisfactorily demonstrated that laxatives contribute rather to favor than prevent the development of peritonitis. It may be readily conceived that there is a great difference between inducing an open

state of the bowels, by the aid of lavements, and by the introduction into the stomach of substances proper to determine several alvine evacuations.

When it was ascertained that puerperal fever was nothing more than an inflammation of the peritoneum, it was imagined that it might be subdued by blood-letting. This idea arose from views of inflammation in general, and of all inflammatory diseases. Unfortunately, experience has not confirmed the sanguine expectations which had been conceived; and it is not only with regard to puerperal peritonitis that physicians have erred respecting the preservative tendency of sanguineous evacuations: the same error has occurred in reference to other diseases. I shall state here the opinion of Delaroche on this subject: "We should be careful not to have recourse to violent remedies without a necessity proportioned to their importance. It must be remembered that, at the time of accouchement, blood-letting must be employed with great caution; for at this period there is sometimes an excessive quantity of blood discharged from the vessels of the uterus, which will tend very much to weaken the vital powers of the individual: a period when, perhaps, the patient is on the eve of being attacked by some

violent affection, the cure of which will depend on blood-letting—now become indispensable—and the strength which she may possess to support the loss of blood. For it would, indeed, be a gross deception to imagine that, if the abstraction of blood be a remedy capable of curing puerperal fever, it is likewise able to prevent its development. Never, except in some cases in which there was evidently a disposition to general plethora, occasioned and kept up by habitual evacuations, has blood-letting prevented an inflammatory disease, when it had not yet manifested itself by any symptom. I have, on the contrary, always remarked, that when inflammation occurred in an organ essential to life in an individual already considerably weakened by much loss of blood, the chance of recovery was less than under other circumstances." (P. 248.)

I shall add but little to this passage, the truth of which is every day demonstrated.

Though there exists considerable difference between an abstraction of blood—the quantity drawn being under our immediate control—and uterine hæmorrhage, which comes on unexpectedly, and alarms the individual, the abundance of which we frequently cannot limit, and which demands the employment of remedies capable of

determining inflammation, I will refer the reader to what has already been said with regard to the frequency and danger of puerperal peritonitis after great losses of blood. It may likewise be remarked, that after accouchement there occurs a series of phenomena, the development and uninterrupted course of which are necessary to the prompt re-establishment of health. Blood-letting, with a view of preventing a disease, the danger of which is not apparent, may have an effect entirely different from what we anticipate, and, by the derangement and disorder it produces in the phenomena connected with the puerperal state, and which are a necessary consequence of accouchement, may become the cause of disease.

It is said, and it is the popular belief, that those women who nurse their children are less exposed to puerperal diseases than others. This opinion has been particularly insisted upon and propagated by the practitioners of milky metastasis. It is no doubt proper that such should be the views of the public on this subject; for it will tend to encourage mothers to the performance of a duty commanded by nature and the well-being of their offspring; but is this opinion derived from any scientific principle? Are the arguments on which it rests conclusive? It seems to me that

we know nothing positive on this subject. I have observed peritoneal inflammation among women who nursed their children: I have likewise remarked it in those who did not nurse; the disease was equally dangerous in both cases. *Neque feminæ insubriæ, says J. P. Franck, quæ, exceptis rusticis, filios non lactant, febri puerperali magis subjectæ videntur quam germanæ matres, quæ ubera proli sugenda porrigunt.* (Nolte, p. 34.) In the hospital at Vienna, where nearly all the women are accustomed to nurse, the disease is not less fatal than in Paris, where it is very rare that the females suckle their children.

Not being in possession of a sufficient number of facts to permit me to judge of the question, I am obliged to confine myself to the examination of what has been written on the subject. I have been unable to form any positive opinion. I am, however, satisfied that, notwithstanding the prevailing opinion, women who nurse require, during the puerperal state, as much care and attention as those who do not.

White was persuaded that the acute fever of puerperal women is often occasioned by the putrefaction of the lochiæ, which remain in the uterus and vagina, on account of the horizontal position to which these females are confined;

he therefore recommends that they should be made to sit up several times during the day. "Some of the women whom I deliver," says he, "leave their bed the first or second day; but none allow the third day to pass without getting up; and for fear it should be imagined that this vertical situation of the body should give rise to some accident, I will state that none of them have ever been affected with prolapsus of the vagina, or any other evil, which could possibly be attributed to the change of posture." (P. 401 et 402.)

Notwithstanding this positive assertion of White, I would not recommend that the women should leave their beds so soon after accouchement. The uterus, as yet, retaining its acquired size, is in fact supported by the sides of the pelvis, and its procidence is perhaps not much to be feared. But such is not the case with the vagina, which has been distended in every direction beyond its ordinary elasticity, and which, not having yet resumed its usual dimensions, presents a great degree of laxity, and is disposed to fall forwards. It is moreover badly supported by the vulve. It may be remarked that syncope and uterine hæmorrhage may likewise result from the vertical situation of the trunk too soon after delivery.

The movements of the patient in bed, the change of posture necessary for the administering lavements, and for the voiding of urine, &c. and her removal from one bed to another, appear to me sufficient to prevent the continuance of the lochiæ in the vagina, particularly if the precaution be taken of not allowing the bed to be too soft, and the pelvis be placed higher than the chest and inferior extremities. If any unpleasant odor should be observed in the lochiæ, there is a more efficacious and convenient remedy to be employed than the vertical position: I allude to injections into the vagina, and particularly into the uterus.

These injections, successfully employed by Harvey in a case to which I have already adverted, have formed the subject of an essay inserted in the *Memoirs of the Royal Academy of Surgery*, t. 3, p. 302, by Recolin. I shall make the following extract from it;

“On the 2d of August, 1753, I was called,” says the author, “to a woman twenty-two years of age. She had fallen the day before from the top to the bottom of a staircase, and was delivered during the night, with the ordinary pains, of a foetus of three months, together with the greatest part of the placenta in different portions; a small

piece of the placenta remained in the cavity of the uterus, and could be distinctly felt at the orifice. After having in vain endeavored to draw it away with my fingers, or to cause its discharge by the use of lavements, I did not hesitate to have recourse to injections of warm water into the uterus. By means of these, I was enabled to complete the delivery of the woman, who, until then, had experienced considerable pain in the abdomen, and had lost a quantity of blood. This miscarriage was soon followed by the restoration of health."

The portion of placenta here alluded to, equalled the size of a large walnut. If this practitioner, discouraged by the useless attempts he had made, had abandoned the case to the resources of nature, putrefaction would most probably have commenced in this foreign body, and become the cause of very dangerous, perhaps fatal consequences. It is doubtful whether the injections into the vagina alone would have procured a result similar to that obtained from an introduction of the liquid into the cavity of the uterus.

A proper renewal of the air is of the highest importance to puerperal women. It is not now necessary, as it was forty years since, to allude to

the absurd custom which was then in vogue of stifling the females under the weight of bed-clothes, and by means of thick curtains, which they scarcely dared to open. The progress of science has proved how groundless were the fears entertained with regard to the slightest diminution in the temperature. We have likewise remarked nearly the entire disappearance of those miliary fevers, which were so common and dangerous. However, persons are not yet generally convinced of the advantage of a large chamber for delivery, which will admit of an easy ventilation. It is necessary that a fire should be used, in proportion to the temperature of the external atmosphere. The air of the chamber, decomposed by combustion, and, at the same time perhaps, by the heterogeneous principles which change it, is continually renewed by the external atmosphere which is introduced by reason of the vacuum created by the combustion. We may every day have an opportunity of judging of the difference that exists between a chamber in which the night has been passed without fire and one in which fire has been kept up. When the external temperature is very elevated, it is proper to make a small fire in the evening, about the hour of closing the windows. As for the rest of

the day, unless there be great humidity in the air, or the patient be troubled with copious perspiration, it is necessary to ventilate the apartment frequently, either by opening the windows or door. It is scarcely necessary to remark, that all drafts of air should be avoided.

In private practice the inconveniences of a vitiated atmosphere are exceedingly rare. It is especially in the hospitals that this vitiation becomes a frequent cause of puerperal peritonitis.

“Puerperal fever,” says White, “cannot be so easily prevented in the hospitals, where the patients are not only in the same house, but even in the same chamber.” (P. 94.) And farther on, after having spoken of the means proper to purify the atmosphere, he adds: “I doubt the efficacy of every means that may be employed, as long as several females *en couches* are assembled in the same apartment. It will be impossible to preserve the air pure, dry, and exempt from bad smell, and at the same time to proportion the heat to their different constitutions, and to the different symptoms they experience. If each patient cannot be allowed a separate chamber, we should be careful, at least, as soon as the fever has commenced, to remove her to another apartment, not only for her own security, but likewise for that of the

other invalids; or it would be still better to deliver each individual in a particular apartment, and to allow her to remain there for a week or ten days, until there was nothing to be apprehended." (P. 100.)

Unfortunately it is difficult, as White observes, to maintain the purity of the atmosphere in the wards of a hospital. Although the hospitals of France, and particularly those of Paris, have greatly improved within the last thirty years with regard to their salubrity, still it would appear that this subject has not sufficiently occupied public attention. In order that benevolence be followed by all the advantages it proposes, it should be properly regulated. Its object should not be confined to administering relief to the greatest possible number of poor; it is likewise necessary that this charity prove truly profitable to them. If, in endeavoring to aid them, we place them in more dangerous circumstances than those in which they were found, most certainly we will not attain the object intended. "It is often a misplaced kindness to remove them from their own little domicile," says doctor Demangeon, "and offer, under the vain pretext of benefiting their health, an asylum where every thing seems to invite death. Receive only six

patients if you cannot accommodate more than this number ; but be careful not to cause these to perish with six others, for having undertaken, with means sufficient only for a limited number, the cure of numerous individuals, who, without your perfidious humanity, would perhaps have been saved." (Description of the Hospital and Practical School of Midwifery at Copenhagen, p. 210.)

The consequences to which I have just been alluding will always attend upon crowded apartments. The sick, under these circumstances, by vitiating the air, generate the germ of a disease often more dangerous than that for which they themselves have been treated. If this disease do not attack them, the respiration of an unwholesome air, in affecting the vital forces, renders at least the most proper remedies and best directed attention inefficacious; whereas in another situation they would have proved completely successful.

Experience has demonstrated the danger to be apprehended from the collection of a large number of patients and especially of puerperal women, in the same place. It is especially by comparing the results obtained in establishments where the wards contained but few beds,

with those where a contrary arrangement existed that we shall be enabled to appreciate this fact. I have spoken of these results when treating of the causes of puerperal peritonitis.

I think it proper to give in this place a description of the lying-in apartment in the hospital of Edinburgh, where the celebrated Young obtained such marked success. I extract this description from White, page 407 :

“The lying-in women at the hospital of Edinburgh are placed in a large chamber, containing ten beds. There is only one chimney, placed at one of the extremities ; the door, which is most generally open, [and at the head of the staircase, where there is a continual ventilation, is situated at the other extremity. As the chamber sometimes smokes, a window which is near the door is frequently opened. There are in all ten windows, and the height of the ceiling is fourteen feet. Each female occupies a separate bed, and these are at some distance from each other. The patients get up ordinarily the third or fourth day, and they leave the institution about fifteen days after confinement. No female is received from the middle of July, to the 12th of November ; by this means the chamber is sufficiently purified.”

The following are more extended details of a hospital in which the success was not less abundant than at Edinburgh. They refer to the hospital of Copenhagen. Situm est ædificium in regione urbis maxime aprica, Friderichstadt dicta, in fundo non admodum sicco et in vicinia maris. At in secunda contignatione domus nosocomia sunt instructa, illique præterea cellæ sunt subjectæ.

Duæ dantur cameræ, quarum major quadraginta pedes longa, sexdecim lata, et tredecim cum dimidio alta cum laqueare, respiciens plagam inter orientem et austrum mediam (*south east*) novem lectos, nullis cortinis cinctos, ut liberiori ære fruantur puerperæ, continet. Hi lecti ejus sunt magnitudinis ut matrum cum fœtu, etiam gemello enixo, commode capere queant. Altera huic similis, sed triginta tantum pedum longitudine, ad plagam memoratam necum ad mediam inter septentrionem et orientem (*north east*) spectans octo cogit lectos. His intermedia est camera, partibus dicata. Portas in majore duas, in minore unam, inque intermedia unam, æstate apertas, habere cogit æstus solis, quo domus uritur a diluculo ad meridiem, quatuor ventilatoribus in fenestris applicatis, tribus fornacibus, aliquot demum fenestris apertis ad ærem refrigerandum et renovandum non sufficientibus.

Munditiæ omnem impendunt curam domus antistites : semel quotannis hæc perlustratur et expurgatur ; laqueare cum parietibus dealbantur ; pavementum et lecti lixivio et arena eluuntur ; pluries per annum stramina renovantur ; stragula soli æstivo sæpius exponuntur ; lintheamina munda et sicca semper sunt in promptu ; indigentibus etiam vestimenta subministrantur.

This description is taken from a memoir published in 1774, by J. P. Rogert, and inserted in the *Collectanea Societatis Medicæ Hafniensis*. The author informs us in this memoir of the manner in which the lying-in women are governed. There were but two cases of peritonitis among three hundred and thirty-seven women who were delivered in this institution during the year 1773. One of these cases proved mortal.

It is particularly to the arrangement of the wards, and to the small number of beds they contain, that we are to ascribe this freedom from peritoneal inflammation ; for the remedies administered to the females do not differ essentially from what are given in other institutions, where, however, the disease is much more frequent.

These wards are spacious and airy, and contain but a small number of beds ; they are likewise so constructed, that the air is renewed with

great facility, and this is done several times during the day. In addition to this, the wards are purified every year; the ceilings and walls are cleaned; the beds renewed, &c. Such precautions are of great importance; but we should guard against the error of crowding one ward whilst purifying the other. It would be very advantageous to have always a vacant apartment, for it could be occupied by the patients who are placed in the one about to be cleaned.

Rogert objects to the use of curtains. I think their entire proscription would be attended by inconvenience. In certain circumstances, they protect the patient from currents of air; and again, it is sometimes proper that the patient should be screened from the observation even of her companions. But we should banish the testers, and recommend that the curtains remain open as often as possible in the day, and always during the night. These curtains should be made of a material that does not readily retain the miasmata; they should be frequently washed.

Since the memoir of Rogert, the lying-in hospital at Copenhagen has been entirely re-modelled. In 1798, fifty-five pregnant women could be received in it; they were well taken care of; cleanliness was particularly attended to. The

most spacious halls contained only six beds; hence, says doctor Demangeon, from whom I take these details, resulted an incalculable advantage, as regarded the general tranquillity and cleanliness of the patients, and more particularly the purity of atmosphere—conditions so essential, and so neglected elsewhere. The mortality was very trifling in this hospital, for among nearly a thousand females who had been delivered during the year M. Demangeon was employed in this institution, but three died.

Several practitioners, among others White, Joseph and John Clarke, regarding puerperal peritonitis as contagious, are very particular in having the bed and bedding thoroughly purified after a death. There are even some authors who recommend the chamber in which a patient has died to be vacated, and purified before placing new patients in it.

Without adopting the opinion of these authors with regard to the contagious nature of puerperal peritonitis, I deem it indispensable to change entirely the bed of a female who has been attacked by this disease, whether she had died or not. The different articles composing the bed are apt to be impregnated with deleterious miasmata, and soiled by matter which will continue the vi-

tiation of the air. As to the abandonment of the ward, I do not see its necessity, unless there should have occurred many cases of this disease ; under these circumstances, it would not be sufficient to evacuate and purify it ; it would likewise be necessary to diminish the ordinary number of beds.

“ If the disease manifests itself in a hospital,” says John White, “ those affected should be immediately separated from all the rest. The bedding should be cleaned and aired before being again used, and the ward should likewise be washed. Such was the plan adopted in the general lying-in establishment in *Store-street*, before and since my connection with it. I mention this circumstance, because doctor Joseph Clarke expresses his surprise that it was not the usage in England. This plan was probably adopted in the other hospitals, for common sense tells us that nothing is more proper to arrest the progress of the infection than cleanliness and ventilation.” (P. 109.)

Similar precautions have been taken at the hospital in Dublin, where, it appears, they have neglected nothing in order to preserve the health of the patients.

In the *Traité des Pertes de Sang*, by Alph. Leroy, there is an instance of what may be effected by proper care and management in preventing and arresting epidemic peritonitis. This disease prevailed at the Hospital of Humanity in Rouen, during the year 1793. Several women had already died. "Having been at that time in this city on business," says Alph. Leroy, "I was invited by Laumonier, surgeon in chief of the hospital, and by several members of the corporation, to meet in the hospital with the principal physicians and surgeons of Rouen, to whom I communicated my views of this disease, which had for a long time been the subject of my meditations.

"I observed that the ward of the lying-in women was badly situated, humid, shaded by trees, and exposed to the north, and consequently calculated to generate and preserve infection. On account of these circumstances, the ward was transferred to a very dry, airy spot, and exposed to the south.

"I remarked that it was necessary to anticipate the disease, of which we most always had some indication, several days before accouchement. In fine, I stated that the women affected with this fatal disease experienced slight colic in the bas-

ventre a few days before delivery, which was the effect of loss of support in the different points in the abdomen. In examining the abdomen of several of these women, I observed that it was soft and swelled; the uterus was very slightly elastic. M. Laumonier and the other physicians of the city with whom I had met, agreed with me that this disease might be prevented by administering to the women, in the last month, or even a few days before their accouchement, particularly to those who were attacked by colic, strong decoctions of quinine, rendered purgative; at the same time, I ordered during the day three or four spoonsful of different distilled aromatic waters; half an ounce of the spirits of Mendereri was added to four or five ounces of these distilled waters, together with the syrup of quinine. Cheerful feelings were encouraged among the patients.

“From this moment the epidemic ceased, and of two women who were affected with the disease, one recovered under my care; and it did not attack any of those who were ready to be confined, and who, however, had experienced pains in the abdomen.” (P. 55, et sequen. 2d edit. *Traité des Pertes de Sang.*)

Without contesting the good effects of the quinine, the aromatic waters and spirits of Menderi, I am of opinion that the cessation of the epidemic is to be attributed to the removal of the women from a damp ward, exposed to the north air, and badly ventilated, to a situation much more open, dry, well aired, and exposed to the south ; for, as doctor Camus remarks in his hospital reports, "one of the preservative and curative means appears to consist in keeping the lying-in women in wards where the air is abundant and pure ; and where the beds are separated from each other." (P. 150.)

This is likewise the opinion of Vogel: *Ær in quo puerpera commoratur purus requiritur et temperatus, cubiculumque idcirco, si fieri possit, amplum sit et altum oportet.* In attending faithfully to what has just been said, we shall not be less successful than Schæffer, who tells us that he never had a case of puerperal fever among the women confided to his care, either during pregnancy or immediately after accouchement. (Vogel, *Manuale Praxeos Medicæ*, t. 2, p. 281 et 382.)

TREATMENT.

I am sorry, observes Burns, that I find it much easier to say what remedies have failed, than what have done good. (The Principles of Midwifery, p. 428.)

The remedies recommended and employed in puerperal peritonitis are as various as the opinions respecting its nature. Some authors have recommended sanguineous emissions, and the different antiphlogistic remedies; others have prescribed emetics or purgatives, and sudorifics. Some have had recourse to tonics and anti-septics; revulsives have been greatly lauded by certain practitioners. Many have adopted methods of treatment which they have regarded as specific—oil of turpentine, sub-carbonate of potash, the different mercurial preparations.

In taking into consideration this multiplicity of remedies, which announces the limited resources of our art rather than its richness—in reflecting on the great difference which exists in their mode of action, we are led to conclude either that the disease for which they are employed may present

itself under various conditions, or that we are as yet but little advanced in what regards its therapeutics. Both of these suppositions appear to be founded. "It has been remarked in certain epidemics of this sort," says Ernst Horn, "that the disease, though treated in different ways, always pursued a determinate course, the danger of death ensuing after a successive increase in the symptoms, without the different remedies employed appearing to have any influence. Puerperal fevers have likewise been observed, which resisted all the curative methods, and their fatal termination was predicted, because those remedies known as the most efficacious did not produce any salutary change. Stimulants, evacuants and debilitants, administered in circumstances which seemed to be absolutely the same, proved equally useless." (Biblioth. German. Med. Chirurg. t. 7, p. 386.)

Jæger, who made some observations on puerperal peritonitis at the hospital in Vienna, in 1795, says that not one example can be cited of a cure of this disease having been effected, although the different curative methods recommended, such as the antiphlogistic, antigastric, excitant, &c. had been successively employed. This does not appear favorable to the assertion

of Boer, who boasts that he possesses a remedy, which he calls the *puerperal powder*; this he keeps secret, and deems it a specific against the disease.

Since this period, have we made any progress in the treatment of puerperal peritonitis? The solution of this question will result from an examination which I shall now make of the different remedies employed, and of the circumstances in which they may prove useful, insufficient, or dangerous.

SANGUINEOUS EVACUATIONS.

Sanguineous evacuations have been prescribed by some practitioners and recommended in all cases—by others they have been considered useful only in particular circumstances—and again, there are some who have rejected them altogether.

Among those authors who have recommended blood-letting, with more or less restriction, are Hippocrates, Ætius, Paul d'Egine, Avicenne, Felix Plater, Guillemeau, Mauriceau, Delamotte, Puzos, Levret, Delaroche, Armstrong, Denman, Robert Thomas, Al. Gordon, W. Hey, MM. Gasc, Legouais, &c.

Among those who have attached much less importance to this agent, or who have proscribed it, are Walsh, White, Hulme, Stall, Joseph and John Clarke, Al. Hamilton, J. P. Franck, Brennan, Burns, Vanden Zande, &c.

It is matter of surprise that authors of acknowledged merit, should entertain such conflicting opinions with regard to the same remedy, some regarding sanguineous emissions as the only means of safety, others declaring them to be infallibly mortal. We cannot suspect the integrity of these men; they express themselves in the language of profound conviction. To what, therefore, are we to refer this difference in opinion? It is no doubt to be attributed to the fact that, having employed this remedy in peritoneal inflammations, the nature of which was not the same, and which were developed under different circumstances, they obtained different results. I am convinced from the perusal of authors and from my own experience, that, in many cases, sanguineous evacuations are useful, and indispensable; that in others they are injurious, and may prove fatal.

In sporadic peritonitis, from external cause, blood-letting appears to me to be the most certain remedy we can prescribe. It will be the more

efficacious in proportion as it is employed soon after the attack of the disease. Hulme, Denman, Leake and doctor Legouais, among others, imagine that blood-letting is not proper after the first period of the disease, and this period extends at most to the first twenty-four hours. "And let it not be imagined," says doctor Legouais, "that these limits are too rigorous; for, whether we consider the facts we ourselves have witnessed, or refer to the observations of authors the most remarkable for their good faith, we have never observed any good effects arising from sanguineous evacuations practiced at a more advanced period, except in a very limited number of cases; and even then, they had been employed with such extreme reserve, that we may with reason doubt their influence, and demand whether the amelioration by which they were followed was not the effect of the salutary efforts of nature, since we sometimes see, though indeed but rarely, that the disease is cured spontaneously, after having attained a certain degree of violence." (Inaug. Dissert. p. 19.)

It is true that puerperal peritonitis, of all other phlegmasiæ, is that in which the stages succeed each other with most rapidity, and in which the first period is the shortest, particularly when the

inflammation tends to a fatal termination. It is likewise true, that when a disease of the peritoneum has reached a certain degree, it has to pass through particular stages which are indispensable for the re-establishment of health, and that, to do this, nature requires strength. If we destroy this strength when we cannot change the progress of the disease—give it any other direction than that it has taken, we render the condition of the patient much more dangerous, and death will perhaps ensue; whereas, if we had not weakened the vital forces, nature would have triumphed. It should always be remembered that we are not only to consider the nature of a remedy, but likewise the proper occasion for using it. *Occasio præceps.*

There are still other reasons in favor of the use of sanguineous evacuations early and only during the first period. The second period is characterized by the formation of an unnatural effusion. It is well demonstrated that, during the height of the inflammation, an abundant exhalation occurs in the serous surfaces; but the fluid which is there amassed does not appear to differ from that formed during health. However, it is soon absorbed; the serous membranes become dry, and the second period is marked by

the exhalation of a liquid very different from the first. This liquid possesses a foul aspect; it is mingled with fibrinous particles more or less abundant; sometimes it resembles pus. When the sanguineous evacuations have not arrested the phlegmasia in its first stage, when they have not succeeded in preventing the formation of this liquid, if we repeat them, we will favor the absorption, the transfer into the general circulation of this effused fluid, which will become the more dangerous as, at the same time, we diminish the forces of nature. Thus we will produce an effect doubly pernicious.

This absorption has been alluded to by Walter in the following terms: *Sanguinem in febris puerperarum pessime adfectum esse, præprimis ex illo liquido subtili lymphatico patet quod in tela cellulosa secernitur et per vasa lymphatica in tela cellulosa cum suis tenerrimis aperturis orientia rursus ad sanguinem reducitur.* (P. 38.)

The influence of blood-letting on the absorbent system, has been demonstrated by the interesting experiments of M. Magendie. It was known to Van Swieten. *Metuendum forte videretur, says he, ne putrefacti facilius esset introitus in venas depletas per sanguinis missionem.* (Commentar. t. 1, p. 722.)

Marteau, a distinguished practitioner, likewise had occasion to appreciate this influence. "Copious blood-letting," said he in 1768, "will facilitate the absorption of a poison which adds new force to that already committing its ravages." (Dissert. on Epidemic Sore Throat, &c. p. 73.)

It will perhaps be objected that the absorption of the effused fluid is necessary in order that health be re-established. The fact is true. But it is not proper to favor this absorption when the entire organism is in a disordered condition, which compromises the life of the individual. The introduction into the circulation of a liquid derived from a morbid secretion, would then have the immediate effect of aggravating the symptoms, and perhaps render them mortal; whereas, if the absorption take place at a later period, nature, less debilitated and deranged, would be able to expel it by the intestinal evacuations, by the urine, perspiration, and critical deposits, in proportion as it entered the circulation, and this with decided advantage to the patient.

But, as regards the use of sanguineous evacuations, if the limit of twenty-four hours be too great in certain cases, it appears to me too restricted in others, and by following literally the

precept of doctor Legouais, we would neglect a remedial agent which might prove extremely advantageous. A remark which it is necessary to make, and which M. Legouais has omitted, no doubt from forgetfulness, is, that his reflections apply only to the first bleeding; for, if after one or more bleedings, which may have procured an amendment, and arrested the progress of the disease, it appears proper to have recourse to this remedy again, we would not be obliged to abstain from using it because the peritonitis had existed for several days.

I was called some time since, says Delaroche, to see an unmarried woman, about twenty years of age, who had been delivered three days previously. She appeared much afflicted in mind. Very acute pains were felt in the abdomen, which was excessively tense, and could not bear the slightest contact. Violent head-ach; urgent thirst; pulse full, hard, and frequent, 130 in a minute; she had sickness of the stomach, but no diarrhœa; rather constipated; the lochial evacuation quite natural.

I proscribed all nourishment, except small quantities of very thin gruel; she took for ordinary drink, toast water and a decoction of dog-grass and liquorice. Twelve ounces of blood

were abstracted; the bowels were kept open by lavements; and I ordered powders of nitre and cremor tartar, with two grains of camphor, at a dose. The patient supported the camphor very well; but it produced no sensible effect. The next day, the pulse had somewhat fallen; the other symptoms, however, continued with all their force. I ordered in the morning a second bleeding, and being governed by the state of the pulse and the violence of the pains, blood-letting was again had recourse to twice during the same day. The effect of this treatment was to procure the patient some sleep the following night, and diminish considerably the pains and fever. The next day, however, as both the pains and fever seemed to recur, I ordered a fifth bleeding, after which the patient gradually improved.

This fact, to which I might add several others, demonstrates the efficacy of blood-letting practiced more than twenty-four hours after the invasion of the disease; and on this point the experience of Hey accords with that of Delaroche.

May it not happen that, during the course of a peritonitis of several days continuance, another phlegmasia may commence for which blood-letting will be indicated? We should, therefore, be careful not to be governed in the use of this

remedy by the sole consideration of the period which the peritoneal inflammation may have reached. I extract the following case from Delaroche, which shows the good effects of bleeding in a similar instance :

I was called, says he, in the month of March, 1776, to see a woman twenty-eight years of age, who had been delivered three days before. She experienced, since the preceding night, acute pains in the abdomen, which rendered the slightest pressure insupportable, accompanied by considerable fever and swelling of the inferior extremities. The lochiæ were nearly suppressed. The pulse was full, strong, and frequent; the first day, I took from the arm between nine and ten ounces of blood; the patient was placed on severe diet, and the use of refreshing and calming drinks. The next day, diminution in all the symptoms; the pains, however, were still considerable. I ordered powders composed of twelve grains of nitre, the same quantity of cremor tartar, and three grains of camphor, to be given every three hours. This medicine was soon followed by a relaxation of the cutaneous surface, and consequently general perspiration—abundant urinary excretion, and several intestinal evacuations, without any irritation. On the fol-

lowing day, the swelling of the legs and thighs had almost entirely disappeared; the fever and pains were considerably diminished, and the patient was in every respect much better. But having caught cold through imprudence, she was suddenly seized with a violent pain of the side, accompanied by cough, oppression, and high fever. It was now the sixth day after her accouchement. Two bleedings this same day produced very trifling relief; the powders, which had proved so efficacious in calming the inflammation of the bas-ventre, did not subdue the pleuritic symptoms, which did not yield until I had made two additional abstractions of blood, and employed the remedies usual in inflammations of the chest. (Obst. 1, p. 257.)

It will perhaps be objected to the conclusion I draw from this observation, that the inflammation of the peritoneum had disappeared. I will, however, remark that there was still fever, and convalescence did not appear completely established at the commencement of the pleurisy. What would have become of the patient if blood-letting had been neglected?

While I admit that we cannot fix any absolute rule with regard to the period beyond which blood-letting would be improper, and that we

should observe closely the intensity of the disease, its rapidity, and the effect obtained from the remedies employed, still I must recommend, with the authors already referred to, that sanguineous evacuations be had recourse to as soon as possible after the invasion of the disease; and I am thoroughly convinced that a delay of a few hours is sufficient to render a peritoneal inflammation fatal, whereas, by a timely blood-letting, this termination would have been obviated.

After we have once established the utility of sanguineous evacuations, it then becomes necessary to consider what quantity of blood is to be drawn. With the exception of certain circumstances, of which I will speak presently, I am of opinion that the blood-letting should be in very large quantity. It is necessary that it be practiced in such manner as to arrest the progress of the disease, and to prevent it reaching the second period. It is perhaps for want of proper energy that frequently we do not attain results which we had a right to expect from this remedy. It will suffice to take into consideration the violence with which the disease often commences, and the extent of the inflamed surface, to be convinced that success will not follow the abstraction of a few ounces of blood. At most, this

will only produce a momentary diminution in the symptoms, and retard somewhat the progress of the disease, which will soon re-commence with increased violence.

The method which I found most successful, says doctor Alex. Gordon, was copious bleeding soon after the attack of the disease. But this did not answer the end unless it was performed early and in large quantity. (P. 77.)

Farther on, this same author adds: When I took away only ten or twelve ounces of blood from my patient, she always died; but when I had courage to take away twenty or twenty-four ounces at one bleeding, in the beginning of the disease, the patient never failed to recover. (P. 78.)

I entirely admit, with Puzos, Gordon, Hey, and Legouais, the utility, the indispensable necessity of abundant sanguineous evacuations practiced at the commencement of the disease; but the term *abundant* should not be taken in an absolute sense, for a bleeding which would be copious in one case, would be deemed but trifling in another.

We cannot fix precisely the quantity of blood which it is indispensable to abstract. This quantity must vary according to the severity of the

disease, the extent of inflammation, and the general condition of the female. It will be readily admitted that, if the pains and swelling of the abdomen be limited, if the fever be not considerable, &c. we must be less rigorous in the treatment than when the entire peritoneum is affected, the pains very acute, and the fever intense.

If the disease attack a woman of strong constitution, who has not recently experienced any change in her health, the sanguineous evacuations should be much more abundant than when we are called upon to treat a delicate woman, whose health has been injured by a severe pregnancy, privation, antecedent disease, or by hæmorrhages more or less active. We must be careful not to be imposed upon with regard to the debility of the patient by the state of the pulse. Its great frequency, its smallness, are not sufficient to proscribe blood-letting. We must compare this state of the pulse with other circumstances. We are to recollect that one of the characteristics of puerperal peritonitis is this frequency in the pulse ; it may be corded, but little developed, small, concentrated ; but at the same time it is hard. There is the more danger to be apprehended from an error of this kind, as most always the pulse becomes developed, and loses its

frequency after the employment of sanguineous evacuations, and often even whilst the blood is flowing from the arm.

It has been said that in hospital practice sanguineous evacuations are to be employed with great reserve. If the disease prevails sporadically, we may use them as boldly in hospitals as elsewhere; and my opinion on this subject is founded on what I observed at the *Maison d'Accouchement* in Paris, where, in similar cases, I remarked the most brilliant success obtained by copious blood-letting. Dr. Legouais has made the same observation.

This last author, after being convinced of the impossibility of establishing the precise minimum quantity of blood to be drawn, states that a sanguineous evacuation rarely produces an advantageous and sure effect, unless it extends, after the first few hours of the attack, to eighteen, twenty, or twenty-four ounces; he says it is of immense importance to take this quantity of blood at one time.

This assertion is not exactly in accordance with the opinion of Delaroche; I think, myself, it is almost too absolute. Before saying more on this subject, I will briefly state two facts, which serve to support my opinion.

A woman of good constitution, and very sanguineous, was safely delivered. Twelve hours afterwards, she was attacked with a severe peritoneal inflammation; violent and general chill, which lasted nearly two hours; extreme pain in the entire abdomen; and this cavity was so excessively enlarged, that four hours after the commencement of the disease, its volume was as considerable as before accouchement; the weight of the chemise produced excruciating suffering; pulse one hundred and twenty, hard and corded; face colored and animated, though somewhat drawn upwards. In this situation the patient was brought to the infirmary Ste-Marthe, whilst Chaussier was in attendance. A bleeding from the arm was ordered; I immediately took away through a large orifice about a pound and a half of blood. Near the close of the bleeding, the face became pale, and the patient was threatened with syncope. I stopped the flow of blood. But the pulse had already acquired more development, and become less frequent; the pains diminished in severity; the swelling of the abdomen soon began to subside; and in the evening but little remained of the disease, which seemed to threaten serious consequences. We were soon enabled to place emollient fomenta-

tions on the abdomen ; demi-lavements of the same nature were administered ; diluting drinks, severe diet, were the other remedies employed.

The cure here was certainly due to the blood-letting ; never have I witnessed a more prompt effect. This observation strengthens the opinion of Gordon and doctor Legouais, who have published several cases more or less analogous to it.

Madame the marchioness of B***, of a delicate constitution, but in the enjoyment of habitual good health, was naturally delivered of her first child at four o'clock in the morning. In the middle of the night, covered only with a folded sheet, she awoke and complained of being cold ; shortly afterwards, she experienced colic, which continued all night. At nine o'clock in the morning, I found the patient with fever ; pulse hard and corded, ninety-six in a minute ; the abdomen in its lower half had become much enlarged ; the hypogastrium, as far as the umbilicus, formed a rounded tumor, very sensible on pressure ; every five or six minutes, she experienced severe colic, during which the features became altered. But little diminution in the lochiæ ; considerable uneasiness ; thirst ; white tongue ; slight cephalalgia. I abstracted twelve ounces of blood from the arm. Sherbet and

dog-grass constituted her drink ; emollient cataplasms to the abdomen, which, however, could not be endured on account of their weight. I saw the patient again at twelve ; the abdomen was less swollen ; the pains were not so frequent, and less violent ; the pulse at ninety ; the blood was covered with a light greenish coat ; the serum in small quantity. This favorable change caused some delay in the treatment. An emollient demi-lavement was administered. At four o'clock in the afternoon I found her still better ; the malaise less considerable ; diminution in the colic ; size of the abdomen very sensibly diminished ; I could now press on it lightly, and it could support the weight of an emollient cataplasm. In the evening, the pulse had fallen to eighty-five. During the night she had four hours sleep, which had been produced by an infusion of lettuce and two drachms of the syrup of white poppy. I administered, the next morning, a minorative, which procured three evacuations, when the pain entirely ceased in the abdomen, which now became soft and yielding in its whole extent. The milk ascended to the breasts on the third day. The pulse remained frequent—eighty pulsations, during several days, which was owing to a slight aphthous eruption in the lips, tongue,

and pharynx, and to a similar one on the skin. Convalescence was completely established at the end of eight days.

We cannot in this, any more than in the preceding fact, deny the salutary influence of blood-letting; and yet I did not take but twelve ounces. But my patient was delicate; the disease had commenced nine hours previously, and the hypogastric region alone was affected; the pulse did not reach one hundred. I was prepared to renew the bleeding, if it should be necessary. The cure was complete. The patient began to feel better immediately after the abstraction of blood, and from this moment she gradually improved. A more abundant sanguineous evacuation would certainly not have produced a better effect.

In the fifth observation of Delaroche, the disease, though commencing with great violence, yielded to one bleeding from the arm of twelve ounces.

What shall we conclude from these facts? That, under particular circumstances, it is very useful to extend the evacuation to twenty-four ounces; that, in other cases, half this quantity will be sufficient; that, therefore, we cannot establish any absolute rule, and must always at-

tend to the severity of the disease, the constitution of the patient, &c.

It may be proper for me to add that, after much reflection and observation, I should hesitate to abstract twenty-four ounces of blood (*six pallettes*) at one time, except under very particular circumstances. No matter what the indications for bleeding may be, still it may not be so necessary as is imagined; a copious blood-letting might, therefore, be fatal, when even one less abundant would prove injurious. Manningham makes the following judicious remarks on this subject: *Evacuatio sanguinis incisa vena missi, in iis febribus curandis quæ et cæteris graviditatis aut puerperii ægrotationibus nonnunquam superveniunt, plerumque necessaria est. Hanc autem evacuationem simul et semel copiose fieri debere inter istius modi febres haud facile conceditur, cum per intercapedines æque utiliter et multo tutius sanguis potest quasi intercise detrahi; idque mihi in hac urbe celeberrima late quadantenus artem medicam exercenti plus viginti annorum usus comprobavit. Imo vero in quibuscumque febribus, sicut ego existimo, cauto opus est maximo ne copia sanguinis larga uno tempore mittatur, quoniam effectus idem, si interpositis intervallis fiat, plerumque sequatur, et iis incom-*

modis quæ temere effuso sanguine oriuntur difficile sit mederi. (*Artis Obstetricariæ Compendium, &c.*, p. 86.)

I prefer, in ordinary cases, to abstract twelve ounces of blood, and renew the bleeding at the end of two or three hours, if it be necessary. I am guided in this particular by the following rule: When the first bleeding has procured but little relief, if the pulse should continue corded and hard, and has not increased in frequency, I repeat the blood-letting, which I make more copious, and after a few hours, if it be required, I again have recourse to it. When, on the contrary, after the first bleeding, the pulse becomes more frequent, soft and smaller, at the same time that the pain and swelling of the abdomen increase, I am particular not to repeat the evacuation.

Manningham, to whom I just now alluded, carries his precautions still farther. *Methodus, autem, says he, quam unice certam inveni, et quam iis qui præceptis se meis tradiderint commendo, hæc est: Quandocumque sanguinem mitti jusseris, in rebus præsertim dubiis, digito ægrotantis venæ continuo ab incisa vena admoto observandum fortiores an languidiores, effluente sanguine, fiant ictus, idque ex sola uncia permissa observa-*

tione dignoscatur ; si fortiores fiunt ictus, tuto potes pergere ; sin minus, vel si languidiores fiunt, incommodis afficietur maximis ægrotans, nisi statim desinatur Hanc igitur regulam quam solam esse certam affirmare ausim, et ejus præstantiam experientia probavit multa, non possum non vehementer tanquam fidam ducem non commendare, quotiescumque res in dubio fuerit ; eamque multo utiliore inventum iri quam primo crederetur peasuasum habeo ; illud autem certo mihi maximo semper usui fuisse in opera ægrotantibus præstanda. (P. 87.)

It is necessary to have these precepts always before the mind. I do not, however, entirely agree with Manningham as to the importance they merit. The emotion caused by the idea that blood-letting is necessary, and that which patients experience to a greater or less degree during the operation of bleeding, produce in the circulation momentary changes which will vary the effect to be expected from the abstraction of blood. Moreover, I cannot believe that the loss of a single ounce of blood will produce any visible effect.

Several authors, Delaroche among others, have attached much importance to the particular condition of the blood as an indication to govern us in the use of the lancet. They

recommend blood-letting whenever this fluid is buffy, that is to say, when it is covered with a pellicle ordinarily grey, sometimes of a greenish hue, possessing a variable degree of thickness and firmness. We will be apt to do mischief if we confine ourselves solely to this character of the blood; for it is very rare that it is not buffy in puerperal peritonitis; and, when it does not present this appearance after the first bleeding, it scarcely ever fails to do so after the second. I have elsewhere stated that it almost always exists during pregnancy. This disposition of the sanguineous fluid cannot be changed in two or three days; and it is, no doubt, on this account that it is met with in all cases of puerperal peritonitis, as likewise in any other disease for which blood-letting is required. From these considerations, it will appear that this sign is deceptive as indicating the propriety of any particular medication.

The state of the pulse and abdomen are the only guides on which we are to depend.

With me the first bleeding is always experimental. I make it sufficiently abundant to obtain an amelioration, and not so copious as to prove injurious in case I should be deceived with

regard to the propriety of its use. But as soon as its indication is well established, I hasten to repeat it, and allow but few hours interval between those I deem necessary. Sudden and frequently repeated blood-lettings, observes Puzos, are capable of remedying these evils (speaking of milky deposits!) and if, from timidity or too great confidence in the natural evacuations, we abstain from the use of this remedial agent when it is indicated, we will have reason to repent it. (*Deuxième Mèmoire sur les Dépôts Laiteux.*) It is particularly during these moments that we should visit the patient every three or four hours.

It is just as difficult to establish the maximum as it is the minimum quantity of blood to be abstracted; blood-letting may be repeated four, five, six times, and even oftener. We have seen, says M. Ozanan, in the hospital of St. Catharine at Milan, cases in which it became necessary to employ from eight to ten bleedings in order to arrest the disease. (*T. 2, p. 278.*) But, I repeat it, sanguineous evacuations must be close upon each other, for, without this, far from being useful, they will prove injurious, by having no other effect than to weaken the patient without subduing the disease.

Authors do not agree with regard to the most proper mode of effecting these evacuations. Some, and by far the greatest number, recommend bleeding from the arm ; others prefer the foot ; there are some who, in all cases, recommend leeches ; whilst others, again, advise cupping.

I think we should reject altogether bleeding from the foot, which, for imaginary advantages, presents serious inconveniences. Besides the difficulty attending its execution, we can never appreciate exactly the quantity of blood drawn. Add to this, that we cannot practice it without causing greater or less motion of the patient ; and every motion, even the slightest, is very painful, and cannot occur without exciting a greater degree of activity in the disease.

Bleeding from the arm has none of these inconveniences. We may perform it without producing any motion in the trunk, and there is every facility of measuring precisely the quantity of blood. *Si suppressis lochiis inflammetur uterus, e brachio potius quam e pede mittatur sanguis.* (Manningham.) In order that the evacuation of blood be as advantageous as possible, we should make a large orifice. I am of opinion that the effect produced will depend very much on the

manner in which the blood has been drawn; and when it oozes drop by drop, or flows by a very fine stream, either on account of a thrombus or too small an opening, it will be proper to enlarge the orifice. In the Maison d'Accouchement at Paris, all the patients are bled by the *sagès-femmes*, whom it is thought necessary to exercise in this operation. There are but few of these bleedings in which the blood flows easily and promptly, or which are not followed by thrombus, although practiced under the eye of the *élève en médecine*, who very frequently is obliged to dilate the opening, or recommence the operation. I have observed that, among those women affected with peritonitis, the cure was always longer and less certain when the bleeding had been badly performed. I attach great importance to a large stream, and to the prompt abstraction of the necessary quantity of blood.

Leeches, in the opinion of many modern practitioners, are to be preferred to any other mode of abstracting blood in peritonitis. "Though general bleeding," observe MM. Gasc and Murat, "prescribed by Hulme, Th. Denman, and Delaroche, is considered in many cases as the most effectual means of destroying, by way of

revulsion, spasm of the internal organs, we advise practitioners to employ it with reserve, unless the inflammation should be extremely intense, and accompanied by symptoms of plethora, &c. In a word, we should be apprehensive that the debility occasioned by this sort of sanguineous emission would increase the disposition which women have, under these circumstances, to contract adynamic fevers. The same objections cannot be made against local bleeding; it is well calculated to diminish sympathetically the sensibility of the inflamed organs. These local evacuations offer great advantages; they act gradually, and do not produce the debility which usually follows general bleeding. The application of leeches to the vulve or anus ordinarily re-establishes the lochial discharge, and frequently gives a better character to the disease." (Dict. of Med. Scien. t. 46, p. 121.)

It has likewise been alleged in favor of leeches that, in drawing the blood from the capillary system, they abstract it directly from the diseased organ, by the communications which exist between the skin and subjacent parts. This communication appears to me remote, even when the peritoneum is inflamed in that portion of it which lines the anterior parietes of the abdomen, and it is very evident that it does not exist when the

inflammation is seated in the broad ligaments, uterus, intestines, &c. which is most frequently the case.

I do not agree with doctors Gasc and Murat with regard to the inconveniences of general blood-letting, nor do I feel the same confidence in the use of leeches. When sanguineous evacuations are indicated and properly practiced, general bleeding does not favor the development of adynamia any more than the leeches; if, on the contrary, these evacuations are contra-indicated, the leeches will be less injurious than venesection.

Considered in a general manner, the employment of leeches possesses over bleeding from the arm the advantage of a revulsion effected by the wounds or bites of these animals. But this advantage, when it exists, is counteracted by the cold which frequently accompanies their application, and by the difficulty of ascertaining the quantity of blood drawn. This quantity will vary singularly, according as the leeches are large or small, [as they continue on for a longer or shorter period, and as the blood flows more or less abundantly after they have fallen off.

I think that, in the majority of cases, bleeding from the arm is preferable to leeches, and that we should not employ these last, except when,

after having obtained, by general blood-letting, a considerable diminution in the symptoms, there remains pain in one or more points of the abdomen. Then it will be proper to place leeches upon these points, which will prove more efficacious than the general bleeding in arresting the pains. Among persons of delicate constitution we are permitted to have recourse to them from the commencement, particularly if the inflammation be local, of limited extent, and accompanied by slight fever; but we should employ them in sufficient quantity; we cannot expect any advantage from eight or ten leeches; we should use double and often triple this number. *A fortiori*, they should be still more considerable, when, from particular circumstances, we are obliged to abstain from general bleeding in a person who is robust, and treat the peritonitis directly by means of leeches; then it will become necessary to use fifty or sixty at each application.

In my opinion the most proper point to apply them is the anterior parietes of the abdomen; we should place them on this part, being careful to have the largest number on those points which are most painful, that is to say, usually in one or other of the iliac regions, or on the hypogastrium.

Those authors who have recommended their application to the vulve and anus, or to the internal and superior part of the thighs, have had for their principal object the re-establishment of the lochiæ. I have never known any advantage, in this respect, to result from the application of leeches to these parts. The return of the lochiæ is not of itself very material. It may cause us to anticipate a favorable change; but the best mode to obtain this is to combat the disease by remedies employed against the disease itself, rather than confine our treatment to any particular symptom. *Non opus est ut illis promovendis opera navetur specialis, sed indicationibus præsentibus absque respectu ad lochia satis est faciendum.* (Vogel, p. 373.) I will remark that the application of leeches to the vulve and anus presents inconveniences which are not met with when they are placed elsewhere. They cannot be applied to these points without changing the position of the patients, and at the same time uncovering them. The patients are often apprehensive that these animals will creep into the vagina or anus, and they in general submit to their application with repugnance. *Remedia interim talia rarissime in usum vocari possunt, quoniam pudor perverse interpretatus, pertinaciaque adversus persuasi-*

ones quaslibet, &c. eadem vix unquam admittunt. (Vogel, p. 372.)

We can abstract blood with great ease and rapidity by means of cupping-glasses, and measure accurately the quantity. In this respect, they are preferable to leeches; but they produce considerable dread in the minds of the patients, whom it is necessary to uncover when we wish to have recourse to them. If we apply them upon the abdomen, they cause very severe pain, both by the weight of the glasses and the pulling sensation they impart to the skin and subjacent parts. Besides the abdomen, they are sometimes applied to the internal or anterior and superior part of the thighs: this, however, will be attended with such little effect in arresting the disease, that I never advise it. I conceived the idea in 1819 of employing them on the sternum between the breasts. This idea was suggested by the following aphorism of Hippocrates: *Mulieri menstrua si velis cohibere, cueurbitam quam maximam ad mammas oppone.* (Sect. 5, Aph. 50.) The sympathetic connections between the *mammæ* and uterus, caused me to hope that, at the same time that I procured a sanguineous evacuation, there would likewise be a more certain revulsive effect produced. I applied several of

them on an unfortunate woman, who, however, died of a severe peritoneal inflammation, which was already advanced when she entered the *Maison Royale de Santé*.

All that I have just said with regard to sanguineous emissions is applicable, as has before been remarked, to sporadic peritonitis, to peritonitis from external cause, which is developed under circumstances in which we cannot suspect any alteration in the fluids other than that observed in all pregnant women. As salutary as these evacuations may prove in such cases, exactly in the same ratio do I consider them injurious in epidemic peritonitis—especially in hospitals—in peritonitis from internal causes. In this latter case, so far from procuring relief, they are ordinarily followed by greater frequency and smallness in the pulse, a more evident alteration of the features, and increased swelling of the abdomen. I have repeatedly noticed peritonitis, confined to the hypogastrium, propagate itself rapidly to the entire peritoneum after blood-letting. If we decide on the propriety of repeating venesection, either on account of the buffy state of the blood, or because we imagine a quantity has not been abstracted proportioned to the strength of the patient, or the intensity and extent of the phlegmasia, the pro-

gress of this latter will continue ; its course then becomes more rapid, and, in a number of similar cases, blood-letting has evidently accelerated death.

Such are the effects of sanguineous evacuations, which I have often had occasion to witness, and yet the blood was drawn in abundance, and frequently but a few hours after the commencement of the disease. The same observations have been made by several authors in different places by White, Ponteau, Fauken, Storck, and particularly by Clarke, who states that he never saw a case of well characterised puerperal fever cured when the patient had been subjected to blood-letting. "Repeated bleedings," says Dr. Ozanan, in speaking of an epidemic he observed in 1810 at the hospital of Saint Catharine in Milan, "far from subduing the evil, only produce exhaustion, and cause a fatal termination."

Doctor Vanden Zande is so well persuaded of the pernicious effects of blood-letting, that one day, at Anvers, he predicted the death of an English lady affected with puerperal peritonitis, without having seen her, merely because he heard she had been twice bled, and that the whole treatment was antiphlogistic. She, in fact, died a short time after the second bleeding, notwith-

standing the apparent benefit of the first, which had encouraged a repetition of it.

These reflections appear to me sufficient to show the care and attention which are necessary in order to discover all that has preceded and accompanied the attack of the disease, before deciding on the propriety of a remedy which, judiciously used, will preserve the life of the patient, whereas, if it be had recourse to at an improper time, it will undoubtedly produce a fatal termination, which might have been prevented by other remedies.

The use of sanguineous evacuations should be seconded by emollient, diluting, acidulated drinks, such as the infusion of the flowers of mallows, decoction of barley, gruel, veal or chicken water, sherbet, weak lemonade, &c. These drinks are to be sweetened with sugar, the syrup of currants, lemons, strawberries, gum, &c. These different articles must be varied according to the taste of the patients. In general, these drinks should be given warm. There may be circumstances requiring them to be cold, and others, again, in which it will be more useful to administer them hot. It is difficult to establish any fixed rule on this subject. I will have occasion hereafter to refer to this point.

It is scarcely necessary to mention, that a severe and absolute diet is indispensable until we have obtained a complete cessation of the fever.

EMETICS.

The use of emetics has frequently been advised in puerperal peritonitis. Willis, White, Hulme, Leake, Stoll, and Finke, administered the stibiated tartar in small doses, James' powder, and ipecacuanha; but the treatment by emetics appears particularly to consist in the employment of this latter article.

At several different times, ipecacuanha had been given without success at the Hotel Dieu in Paris, when, during the year 1782, Doulcet, a physician of this hospital, was present at the very moment in which a female, recently delivered, felt the first symptoms of puerperal peritonitis, which commenced by vomiting. Doulcet seized the indication which presented itself, prescribed immediately fifteen grains of ipecacuanha, given in two doses, and the emetic was repeated the next morning. Having remarked a notable amendment in the symptoms, he kept up the al-

vine evacuations which this second dose had procured, by a potion composed of two ounces of the oil of sweet almonds, one ounce of the syrup of mallows, and two grains of kermes mineral, which were given by spoonsful. It prevented, says he, the deposit which was about forming, and thus preserved the life of the patient. Encouraged by this success, he advised Madame Dugès, *sage-femme* in chief at the Hotel Dieu, to administer ipecacuanha whenever the first symptoms of the disease declared themselves, whether during the day or night. For more than four months, the epidemic raged with great violence, and yet not more than five or six women perished. More than two hundred patients were cured.

Such is the origin of what has been termed the *Method of Doulcet*, which consists, as has been stated, in the administering of fifteen grains of ipecacuanha on the appearance of the first symptoms of the disease. This emetic is given at two different times; there is an interval of an hour and a half between each dose; as soon as it has produced its effects, we make use of the oily potion, the composition of which I have just mentioned. We must repeat the same treatment the following day, notwithstanding the diminu-

tion in the symptoms ; and hence the greater necessity, if there should be no amendment. Three and four repetitions have sometimes been necessary, when the abdomen continued enlarged and painful, and the pulse did not become developed.

The mortality had been so considerable among lying-in women, the consternation so great among pregnant females, and such a marked discouragement in the minds of physicians, that this discovery of Doulcet was hailed with enthusiasm.

Confidence was now restored. This was a happy moment for the profession. The physician of the Hotel Dieu received a handsome remuneration from government, but unfortunately death soon prevented him from enjoying it. Certain details respecting this remedy were drawn up by the Faculty of Medicine, published at the expense of the state, and distributed throughout France.

The enthusiasm soon diminished, and, in fine, disappeared. It was not long before it was discovered that the great hopes conceived of this medicine were in many instances fallacious. At the end of 1782 and the commencement of 1783, the disease destroyed a great number of women, notwithstanding the care that was taken in the administering of a remedy which had been deem-

ed specific. "In June, 1782," says Alph. Leroy, "we first observed the success attending the use of ipecacuanha; but in the preceding month, which had been very cold and humid, the mortality was frightful, and it ceased in June. It did not exist in September, when ipecacuanha was mentioned as being a specific for the disease. But in November and December, a great number of patients perished, particularly in December; during this time, as many as six and seven a day died." (On Pregnancy, p. 140.)

This last assertion is certainly exaggerated, since, according to the records of Tenon, but nineteen women died during November, and seventeen in the month of December. But we see, by the same records, that the mortality was not less in 1782, and in the following years, than it had been previously. The notes in the possession of professor Deneux, and of which I have already spoken, are, in this respect, perfectly conformable to the records of Tenon.

How, therefore, can we reconcile these facts? We cannot suspect the integrity of the physicians who examined, employed the treatment of Doucet, and found it efficacious. The enthusiasm which prevailed was well calculated to magnify the success of the medicine. But this motive

does not appear to have been the only one ; it is probable that there was rather a coincidence between the period at which the ipecacuanha was administered and the spontaneous cessation of the epidemic, a cessation which had occurred several times before ; and if we pay attention to the facts we shall find that it was most generally in June that it was observed. The fact of the remedy having been given to more than two hundred females in less than five months, does not, it strikes me, prove any thing as to the violence of the epidemic. It generates in my mind an idea quite the reverse of this. It is said, that all the women affected with it perished ; there would, therefore, have been, without the ipecacuanha, a mortality of more than two hundred females in less than five months : now, there is no example of a similar mortality having existed, even during the whole year ; and let us remember that we now speak of five months during which there were generally fewer deaths. The greatest mortality presented by the records of Tenon during the months of June, July, August, September, and October, consisted of 49 deaths ; that of 1780, during the same months, was less than in 1783 ; and yet, at this latter period, the method of Doulcet was in full vigor, whereas it was not known in

1780. The physician had abandoned to the *sage-femme* in chief, who was not competent to the task, the care of deciding as regarded the propriety of this remedy; the *sage-femme* had probably likewise entrusted this duty in many cases to the students. Such alarm was excited by the ravages which had just occurred, that the ipecacuanha was administered to all the women who would take it, on the first indication of an indisposition, which, without doubt, was not always peritonitis. These reflections will appear still more true if we recollect the general apprehension that the remedy had been taken too late; the internal satisfaction experienced when it was thought possible to save a fellow-being's life; the enthusiasm with which the new mode of treatment had been met; the zeal with which we are naturally led to embrace and favor every thing that wears the aspect of novelty, and which, at the same time, has the appearance of being useful.

Since this epoch, the method of Doulcet has been successful as well as unsuccessful; and it is probable that a great number of these latter cases have not been published. Among the number of the most decided partizans of this mode of treatment is found Doublet, in whose work are detailed the good effects arising from it. Hufe-

land has likewise prescribed it ; and, in the epidemic which prevailed at Cassel, and observed by Osiander, but one among all the patients was saved, and she was cured by means of the emetic, although before she had been thrown into a state of complete despair. Among nine cases communicated by Selle, the only patient relieved owed her restoration to repeated vomits.

Doctor Cliet, of Lyon, in admitting the advantageous effects of ipecacuanha, has thought proper to change the mode of administering it adopted by Doulcet. He gives it in one dose ; he does not employ the oily potion, and sanguineous evacuations have often appeared to him to be indispensable after the ipecacuanha ; in fine, he does not use it for the purpose of combating a bilious or mucous complication, but principally with a view to produce a revulsion. His memoir contains several facts, which prove the efficacy of this mode of treatment. I will extract the following : A girl, of a delicate complexion, having been two days delivered, arose in the night for the purpose of going to the closet ; she was in a perspiration, and perhaps the milky revolution was about commencing. She returned to her bed in a trembling state, and could not get warm. The next day she exhibited the following symp-

toms: intolerable pain in the abdomen, principally towards the iliac regions; this pain was so severe that the patient uttered continual cries; she was obliged to lie on her back; respiration difficult; skin dry and yellowish; tongue clammy, and slightly moist; pulse abdominal. Eighteen grains of ipecacuanha, the use of diluting drinks, and emollient fomentations were prescribed. On the second day of the disease, the respiration was more free, the pulse more developed and the skin moist; but the pain, though less severe, still continued. This remarkable change occurred on the day of the emetic, which had produced an ejection of abundant bilious matter. The emollient fomentations were continued; gentle diaphoretics were added to the drink; twelve leeches to the iliac regions. On the third day, the pain much diminished; the breasts hard and painful; the lochiæ began to re-appear. From this moment resolution commenced, and the girl was cured on the tenth day after the attack of the disease. On the seventh day, she had copious evacuations of a yellowish and liquid matter. (P. 37.)

It is proper to remark that, in reading the description of the epidemics at the Hotel Dieu in Paris, we see that very often at the commence-

ment of the disease there was vomiting, or at least nausea, that the tongue was ordinarily thick, soft, humid, covered with a white slime, and sometimes at its base presenting a yellowish green color.

I have met with a great many cases of puerperal peritonitis, and I have very rarely observed this state of the tongue ; I have sometimes seen ipecacuanha employed, but I do not remember a single case in which I could attribute success to it.

I am far from thinking, however, that we should entirely reject the use of it ; and I cannot adopt, with doctor Boisseau, the opinion of Broussais, who wishes to exclude it entirely because he has seen peritonitis declare itself during the action of an emetic. Whenever the tongue is thick, pale, humid, and covered with a thick yellow or green paste, I am of opinion that it will prove very advantageous, particularly if it be followed by the use of laxatives. I would not limit the treatment to this remedy alone, unless its administration were followed by such a remarkable amendment, that but little remained to be done. I would employ the ipecacuanha rather to combat an accidental complication than to act against the peritonitis itself.

The cases in which it is proper are rare, and are principally met with in epidemics. Whether this remedy acts as an evacuant, and expels with the excreted matter a large portion of the deleterious principle that has generated the disease, or whether by imparting a revulsive movement to the economy, which occasions an advantageous change in the deranged functions, or by causing the spasm of the skin to cease, as Delaroche observes, it there directs the vital forces which had been concentrated in the interior, we cannot but admit that ipecacuanha has been attended with success, and will continue to prove advantageous when employed under proper circumstances. Dr. Legouais is of opinion that the benefits resulting from the method of Doulcet, are to be attributed especially to the alvine evacuations which it produces. Without being quite so exclusive on this point, the attentive perusal of the cases in which this treatment has succeeded, demonstrates to my mind, that the intestinal evacuations have exerted great influence in effecting the cure.

PURGATIVES.

I do not consider purgatives as the principal agents in the cure of puerperal peritonitis. The following, however, among other facts of this kind, is an observation reported by Denman, which proves their efficacy :

The wife of one of the guards, aged about thirty years, was safely delivered the first of July, 1767. Thirty-six hours after the birth of her child, she was seized with a violent chill, followed by acute pains in the abdomen and lumbar regions. She soon became as large as before her accouchement. I gave her, from the third day, four grains of a powder composed of two grains of the stibiated tartar, and two scruples *d'yeux d'écrevisse porphyrisés*. No sensible effect having been produced, I repeated the same quantity two hours afterwards. The patient vomited twice, and by the repetition of the remedy, at the end of six hours, she had seventeen successive evacuations resembling yeast. The bas-ventre resumed nearly its natural state ; the sensibility and fever were likewise much diminished.

As the patient was considerably fatigued, I gave her a cordial potion, with a few drops of laudanum, which procured sleep and an abundant sweat. It did not appear necessary to repeat the powder, and the patient became perfectly re-established, without taking any other remedy than a few saline potions, and, towards the end of the disease, a decoction of quinine twice a day. (Essay on Puerperal Fever, p. 57.)

Though there were two vomitings after the first powder, still we must admit that the principal effect of this remedy was purgative, and we must refer the cure to the alvine evacuations.

If purgatives appear to me to be but rarely the principal agents in the treatment, yet I believe them very often useful as an auxiliary means. Such was the opinion of White, Puzos, Hulme, Denman, Stoll, Chaussier; and likewise of Gordon, Hey, and of doctor Legouais, who demonstrated the entire truth of this assertion in his inaugural dissertation. I have frequently observed, with him, that the patient was but little benefited after copious sanguineous emissions, either general or local, and that an immediate amendment took place after the first alvine evacuation, and increased in proportion to these evacuations.

A young lady, enjoying habitually good health, was delivered of a dead child, after a severe and long labor, though natural. She was much grieved at the loss of her child, and passed the whole day in tears. In the evening, I found her with fever, thirst, anxiety, and pains in the inguinal regions; the hypogastrium was slightly puffed up; the lochiæ flowed. A cataplasm of flaxseed and an emollient demi-lavement were ordered; infusion of the flowers of linden; absolute diet. The same disturbed state during the night; the lochial discharge continued; in the morning, there was very little fever; the pains had disappeared from the left, but still persisted in the right region; the lavement had not been returned; urine abundant; the tongue enlarged, soft, humid, and covered with a thick paste, of a whitish yellow; continuation of the same remedies. In the evening, but little change; during the night, however, the pains became more severe; there was not a moment's repose; cephalalgia; urgent thirst. In the morning, countenance considerably altered; the patient was unable to lie down, except on the back; tumefaction of the abdomen; violent pain on pressure; pulse at ninety-six; constipation; sanguineous lochiæ. I took twelve ounces of blood from the arm; cata-

plasm continued; repetition of the lavement. The blood-letting was followed by relief; the pain was less in the right inguinal region and hypogastrium. The patient having objected to a second bleeding from the arm, I ordered leeches to be applied to the painful points. Notwithstanding a copious evacuation of blood, there was no amendment; the state of the tongue and the constipation appeared to me to call for evacuates; I prescribed an ounce and a half of castor oil, mixed with as much peach syrup—a spoonful to be taken every half hour. After the third dose, there was a very copious evacuation, which produced evident relief; the patient discharged a greyish matter, demi-liquid, resembling pea-soup, from which an insupportable odor was exhaled. Eight similar evacuations occurred during the night; the amendment increased in proportion to these evacuations. In the morning, the pulse was less frequent, the abdomen no longer painful or swelled, the coating of the tongue was much less thick, and the breasts began to enlarge. The patient was now kept quiet, in order not to interrupt the secretion of milk; and the next morning I renewed the castor oil. Several evacuations of the same nature as the preceding were obtained; a demi-lave-

ment of gum-water was administered morning and evening; the tongue was not yet altogether clean; the fever had not totally disappeared; and the appetite did not return until there had been about thirty very copious evacuations, which occurred in the space of five days. The evacuated matter now changed its nature, lost its disagreeable odor, and health was soon re-established.

The utility of purgatives is very evident in this case. I do not know what would have been the result if, instead of using them, I had insisted on sanguineous emissions; I doubt whether the patient would have been benefited.

The following case, which recently occurred under my own observation, is equally favorable to the use of purgative medicines.

A female, twenty-four years of age, of a lymphatic and nervous constitution, had arrived at the seventh month and a half of her fourth pregnancy, when suddenly the movements of the child ceased to be felt. At the end of six days, labor commenced; the fœtus presented the right arm in such a manner that the head was situated in the right iliac fossa, the breast and feet in the left, and the sternum in front. The waters escaped at three o'clock in the morning; it was not

until eleven o'clock that the dilatation was sufficient to permit the version of the foetus, which now presented but little difficulty. At twelve, a slight chill was experienced, which, however, soon disappeared. At seven o'clock in the evening, the pulse was frequent; the abdomen somewhat tense, slightly painful in the iliac regions, especially in the right one. The patient complained of head-ach and thirst; the lochial discharge was natural; emollient cataplasm; lavement of the same nature; ptisan of dog-grass and linden flowers; absolute diet. There was very little sleep during the night. In the morning, the fever had ceased; the pain and tension of the abdomen much diminished. The same remedies continued; nothing particular occurred during the day; but at two o'clock in the morning, slight chill, followed by a return of the pains and swelling of the abdomen. The remainder of the night the patient was agitated; considerable thirst. At half after eight o'clock, the pulse became strong and hard, beating ninety in a minute; the abdomen was inflated with gas as far as the umbilicus, and painful on pressure, particularly in the inguinal regions; the lochiæ in small quantity; urine rare, its evacuation attended by pain; no intestinal evacuation; the patient be-

ing on her back, could not turn to either side; the slightest motion increased her sufferings. The features were drawn somewhat upwards; the tongue soft and humid; cephalalgia. Twelve ounces of blood were taken from the arm; the same drinks, and the cataplasm continued; another lavement was administered. At two o'clock in the afternoon, the pains were about the same; they had undergone a slight diminution during the two first hours after the bleeding, but resumed their intensity. The tumefaction of the abdomen continued the same; but the thirst was more or less urgent; the patient had vomited, but with pain; the lavement was returned nearly in the same state that it had been given. The blood formed a clot *en cul d'artichaut*, covered with a greenish coat, half a line thick, and not very firm; there was a considerable quantity of serum; the pulse still continued hard and frequent. Another bleeding of twelve ounces; an ounce of castor oil with as much lemon syrup. At ten o'clock, there was an evacuation; the lochiæ somewhat more abundant; no alteration; the same condition of the abdomen, which had not undergone any change since the second bleeding; the pulse lost its hardness; its frequency increased (110 pulsations.) I prescribed another

dose of oil, friction on the abdomen with two drachms of mercurial ointment; continuation of the cataplasm and drinks. A short time after my visit, and before she took the oil the second time, the patient had an evacuation, followed by slight relief. At the end of an hour, another evacuation, much more copious, of matter possessing an infectious odor, produced considerable amendment; she slept for four hours. The next morning, the abdomen was much less enlarged, and less painful; the pulse, fallen to sixty-eight pulsations, acquired strength; the skin in good condition; tongue moist; absence of thirst; the breasts began to swell; and yet the lochiæ continued red, and were more abundant. An additional mercurial friction; the patient took at two different times, in the morning, the oil which had been prescribed the night before. At eleven o'clock, a slight chill was felt; it was succeeded by fever, and a slight increase in the pains, and thirst; there were two evacuations during the day; the lochial discharge abundant; the breasts much enlarged; the pulse ninety-six: I attributed this increased frequency of the pulse to the state of the breasts. In the evening another mercurial friction; emollient cataplasm; same drinks continued. The night was rather tranquil; in the

morning much less pain, except on the right ; the pulse hard, and at eighty-four. I ordered fourteen leeches to be applied to the most painful part of the abdomen, which produced an abundant flow of blood and great relief. It appeared to me proper that the alvine evacuations should be continued. As the castor oil had fatigued the patient, I substituted for it twelve grains of calomel in four pills, one of which was to be given every three hours ; mercurial friction, cataplasm, same drinks. At two o'clock, another slight chill, followed by an acceleration in the pulse. However, in the evening there was scarcely any pain ; the patient had vomited more abundantly and without suffering ; had two evacuations. New friction ; continuation of the other remedies. The night was spent well ; absence of fever the next morning ; the abdomen flat, and yielding ; the patient began to be able to move herself without pain ; she could even remain for some time on her right side. I ordered a repetition of the twelve grains of calomel and mercurial friction ; two bowls of chicken water were added to the drink. The bed was now made, the patient not having moved from it for four days. Nothing was remarked during the day, with the exception of a chill at twelve o'clock. How-

ever, I looked upon convalescence as established; I suppressed the mercury, and continued only the use of the cataplasms and emollient lavements; the next morning, the gums became painful, and swelled; so likewise did the tongue, on which apthæ were observed; a slight salivation now occurred, and became the principal disease. The abdomen preserved, in the right iliac region, a point painful on the most trifling pressure, which however gradually diminished, and did not disappear entirely for fifteen days.

This observation demonstrates, it appears to me, the great advantage of purgatives. The two first bleedings had scarcely procured even a momentary relief; indeed the second had caused in the pulse certain changes, which removed all idea of practising a third. But the first alvine evacuation was followed by a little amendment, and as soon as a second evacuation, much more copious than the other, had occurred, there was an evident and permanent amelioration; the pulse lost its frequency, and resumed its hardness, so that next morning I did not hesitate to order an application of leeches, which I would not have done at an earlier period.

The honor of the cure will, perhaps, be attributed to mercury ; but I must remark that only two drachms of mercury had been employed when the amendment commenced ; that, if I afterwards administered calomel, it was with the intention of continuing the alvine evacuations, and not for the purpose of determining salivation for a disease which I imagined already in the train of recovery. The patient was convalescent when this salivation had commenced. Without denying the influence which it may have had subsequently in establishing more fully the cure, we cannot but admit that a remarkable and permanent amelioration followed immediately the action of the purgative.

Similar effects from purgative medicines have repeatedly been presented to my observation, without mercury having been at all used. Observations of this kind will be found in the dissertation of doctor Legouais ; but I have thought proper to publish the preceding fact, because, having occurred in my own practice, I have been enabled to appreciate with accuracy all that passed ; and I do not recollect of ever having seen a disease in which the effects of a purgative were more marked, more satisfactory, when it

no longer appeared admissible to have recourse to sanguineous emissions.

It may, perhaps, be supposed that, in this case, the peritonitis was occasioned by the operations necessary to effect the version of the foetus. I will remark, however, that the inflammation commenced in the right iliac fossa; that it was the most violent and continued for the longest time in this spot; and my hand was introduced only on the left side. The foetus was in such a state of maceration, that the epidermis peeled off, and the muscles were very much softened, and infiltrated with a reddish serosity.

I wish to draw attention to one point in this case—to the daily return of a chill appearing nearly at the same hour, with slight exacerbation of the symptoms. This presents some analogy to the intermittent puerperal fevers mentioned by Stein, Osiander, Cerri, and Burserius. This last author, however, regards them rather as remittents, since, with Selle, he ranges the disease in the class of continued remittent fevers.

Experience is altogether in favor of purgatives in the treatment of puerperal peritonitis. When she speaks, all theories and reasoning upon the subject should be silent. I will, however,

examine the principal objections raised against this medication.

It has been urged that the irritating action of purgatives will add to the inflammation of the peritoneum ; this fear appears to me entirely chimerical, unless we should employ very violent drastics. To advance an opinion of this kind, we must have forgotten or never have read the excellent considerations of Bichât, in which he demonstrates that each tissue enjoys a proper vitality, has its particular irritants, and that, in this respect, the superincumbent parts appear in their diseases to be separated by a strong barrier. It is principally in the intestinal tube that we will find proofs in support of this assertion. In a word, nothing is more strange, and at the same time more common, than to observe the muscular and mucous membranes in a perfectly sound condition, whilst, less than half a line distant, the peritoneum is the seat of a profound alteration, is red, covered with pus, and sometimes even affected with gangrene ; whilst in other diseases, the peritoneum is sound, and the mucous membrane inflamed, ulcerated, and at the same time the muscular membrane undergoes a complete disorganization.

Certain authors have considered the presence of an excessive diarrhœa, during puerperal peri-

tonitis, as contra-indicating the use of purgatives. This objection appears to me more specious than real. In fine, in the same proportion that an abundant diarrhœa is one of the most alarming symptoms of puerperal peritonitis, so precisely is a moderate diarrhœa useful and advantageous. The two following circumstances, namely : the good effect always caused by a moderate diarrhœa, and the natural state of the mucous membrane of the intestines, in cases even in which the diarrhœa has been excessive, incline me to the opinion that it is not so much the diarrhœa, as the violence of the disease, that produces a fatal termination. The diarrhœa appears to me, with doctor Legouais, to be a critical effort of nature, insufficient indeed, on account of the severity of the disease. I will likewise add, in support of this opinion, the following facts : When the evacuations are excessive, each of them generally causes momentary relief. (Vigorous.) Repeatedly, notwithstanding the existence of the diarrhœa, the administration of a purgative has been followed by a notable amendment in the symptoms, and by recovery ; of this, there are several examples in the work of Doublet, in the ancient *Journal of Medicine*, and this even frequently happens when we administer

ipecacuanha, which, in these cases, does not arrest the alvine evacuations. Would it be thus, if the diarrhœa were not critical, if there were inflammation of the mucous membrane of the intestines? The infectious odor of the excreted matter, an odor which is almost constant, is a strong evidence that this matter is derived from fluids which have undergone particular alterations; for this odor cannot be attributed to the fact of the matter remaining in the intestinal canal, since it continues sometimes until the end of the disease; and it is likewise as strong after twelve, fifteen or twenty evacuations, as after the first. Neither can we charge it to a particular inflammation of the mucous membrane, since, most generally, this membrane is in its natural state.

Diarrhœa commonly exists in epidemic peritonitis, in that which I believe most frequently due to a general infection of the fluids, occasioned by a prolonged exposure to deleterious miasmata. We know that the intestinal surface, besides its functions of chylification and absorption, may be considered as a vast emunctory through which are expelled many substances which could not, without danger, remain for a long time in the animal economy. This surface is even one of those points towards which the substances are

most rapidly directed. I will refer, in support of this assertion, to the experiment of Bichât, who, wishing to prove the absorption of the air through the skin, remained for some time in an amphitheatre in which a very strong cadaverous odor prevailed, after having arranged a pipe through which he respired the air from without. The expulsion of urine, the odor of which was altogether similar to that of the amphitheatre, soon convinced him that the cutaneous absorption had taken place.

The following fact appears to me to be still more conclusive :

The 26th of July, 1828, M. D*** opened a woman who had died suddenly fifty-one hours previously, and who had been interred for four or five. The thermometer of Reaumur had for several days been at 28° . The body, already in a state of putrefaction, exhaled an infectious odor. There were observed traces of a violent inflammation and gangrene in the mucous membrane of the stomach and duodenum. M. D*** was in good health when he made this examination. The next day, 27th of July, he experienced a general malaise, want of appetite, indifference, and a sensation of heaviness. However, during the day, he attended to his affairs, ate very little, re-

tired to bed at ten o'clock in the evening, and immediately fell asleep. But at two o'clock in the morning, he was suddenly awakened by a very violent colic, accompanied by borborygmes and a pressing desire to go to stool. From this moment until ten o'clock in the evening, he counted one hundred and fifty evacuations, all very copious, possessing a yellow bilious appearance, thick, and filled with froth. On the 29th, about day-break, the evacuations re-commenced, but were much less numerous, (eighteen) and without borborygmes; in fine, on the 30th there were only five.

This excessive evacuation of bile was effected without any pain, with the exception of the violent colic, which announced the first desire of going to stool; but it produced such debility that in the evening M. D*** could not speak.

The treatment consisted in cataplasms of flax-seed applied to the abdomen, ptisan of barley, sweetened with the syrup of gum, and an absolute diet. On the first of August, the evacuations were natural; the health and strength re-appeared.

Two *sages-femmes*, who, desirous of studying the anatomy of the uterus and its annexæ, had assisted at the autopsys, and touched the body, were affected, at the end of six days, with the

same disease as M. D***, but it was not accompanied by the same degree of violence. (Clinique Med. Sept. 1829, et Annales de la Med. Physial. Juillet, 1829.)

The disease, the history of which has just been given, was regarded as a *duodéno-hépatite*. But, in analyzing the fact, shall we really find the symptoms of an inflammation of the duodenum and liver? I think not; and the rapidity of recovery, under the influence of such mild remedies as were employed, contributes very much to remove all idea of an inflammation similar to that just mentioned. I see nothing more, in the phenomena which occurred, than a crisis of nature to expel the deleterious principles absorbed either by the lungs or skin. The liver was the organ employed by nature, and it is not necessary to admit an inflammation of this viscus in order to explain the abundant secretion of bile, which served as a vehicle for the discharge of the putrid miasmata introduced into the economy.

Is it extraordinary that something similar to this should occur in puerperal peritonitis—that nature should direct towards the intestinal surface, and endeavor to expel in this way, the noxious principles which derange her functions? Should not her efforts be proportioned to the severity of the disease?

I must admit that when a diarrhœa is excessive, whilst it has the advantage of removing from the system the deleterious matter—the cause of the disease—there is at the same time danger of its inducing too great debility. But this danger, in my opinion, should be viewed in a secondary manner; it exists in most of the critical efforts. Every where, evil is more or less connected with good, and it would not evince much wisdom to oppose the latter through fear of the former.

The action of purgatives, in puerperal peritonitis, may be considered under two points of view. These remedies determine a derivation on the mucous membrane of the intestines, a derivation which is so much the more efficacious as it is solicited on an extensive surface, and occurs as near as possible to the seat of the disease. We can readily conceive that the current of blood directed towards the mucous membrane will necessarily moderate and diminish the action of this fluid on the serous membrane. Purgatives likewise act by determining an evacuation of matter usually infectious; they facilitate the escape of the deleterious principles, which have frequently generated the disease, or which, at least, aggravate its danger.

It is evident that purgatives prove useful in spo-

radic puerperal peritonitis from external cause, by inducing a revulsion: I will even remark, that it is especially in this kind of peritonitis that their success is the most marked when they are associated with sanguineous evacuations judiciously directed; they should be employed at an early period, and continued during the whole of the disease.

The purgative medication is not less advantageous in epidemic puerperal peritonitis from internal cause, when constipation exists; but most frequently there is diarrhœa, and, though I have just spoken of the success obtained by purgatives in cases of abundant diarrhœa, I think that in this instance we should abstain from using them, and content ourselves with continuing the evacuations, without endeavoring to increase them.

It now remains for me to speak of the most proper means to be employed in order to obtain alvine discharges. These remedies should be principally administered by the mouth. Lave-ments alone would be insufficient; they, however, will be useful in accelerating the effect of a purgative when its action is tardy. I have already stated, in the article on emetics, that ipecacuanha frequently produced a purgative effect; that its salutary action was to be ascribed to the intestinal evacuations it occasioned. Castor oil is

another remedy employed for the same purpose. At the Maison d'Accouchement in Paris, this oil is mixed with an equal portion of the compound syrup of endive, or with the syrup of rhubarb, and this mixture is given by spoonsful every half hour, until a laxative effect is produced.

Another remedy, in equal repute, is the potion employed by Doulcet, and which, as I have already mentioned, is composed of kermes mineral, the oil of sweet almonds, and the syrup of mallows. Denman prescribed James' powder; some have had recourse to the sulphates of soda, potash, magnesia, and other salts of the same nature. Certain practitioners prefer mercury. I will hereafter recur to this remedy, which forms the basis of a special method of treatment. I think it would be improper to employ more active purgatives, unless there should be an obstinate constipation, which could not be otherwise overcome. It is, however, proper to remark that doctors A. Gordon and W. Hey commence with a bolus composed of half a drachm of powdered jalap and four grains of calomel. The evacuations are afterwards kept up with a solution of a purgative salt in simple water or in an infusion of senna; they have never observed any bad effects from the use of this remedy.

What I have already said with regard to purgatives will amply prove how opposed I am to the opinion of Baglivi, when he observes : *In puerperis tanquam pestis fugienda sunt purgantia*. On the contrary, I am of opinion that purgative medicines, which certainly have been too limited among lying-in women, are not sufficiently employed at the present day, and that they often present precious resources against the inconveniences and diseases following accouchement.

SUDORIFICS.

The abundant and salutary sweats which occur naturally during the puerperal period, particularly in those females who do not nurse, have suggested the idea of recurring to sudorifics when these sweats do not exist, and when, at the same time, any unfavorable symptoms present themselves after accouchement.

Boer assures us that the state of the skin furnishes precious indications. *Exeo quod per superficiem corporis transit*, says he, *ex oritura inde cutis temperie, mollitia et benefico quodam modore, vel ex alienitate aut defectu illarum rerum, certius de puerperis earumque valetudine judi-*

catur quam ex plerisque mutationibus aliis quæ singulatim ab illis, ac velut signa, seorsim acciperis. (P. 243.)

Delamotte attached the greatest importance to cutaneous perspiration; to a want of this he attributed many accidents, and he recommended that, when it did not exist, it should be solicited. It was with a view of obtaining abundant sweats that Chaussier sometimes ordered patients, affected with peritonitis, to have a vapor-bath in bed, by means of an apparatus which he ingeniously arranged in the following manner: two hoops, placed towards the foot and middle of the bed, supported and separated from the body the bed-clothes, which, folded under the patient, were so applied above the shoulders that the head was outside and the vapor could not escape. There was placed under the sheet a tin pipe, curved at a right angle, and leading from a sort of funnel, which covered a vase containing boiling water, simple or aromatic, the temperature of which was preserved by means of a chafing-dish. The water, evaporating by ebullition, passed through the pipe, and reached the bed, where it was distributed, and soon occasioned an abundant perspiration, which covered the entire surface of the body.

We must be careful that the extremity of the pipe placed under the sheet does not conduct the vapor to any particular point of the body. Without this precaution, we would expose the patient to burns more or less profound, as I have repeatedly had occasion to observe.

Certainly, if copious sweats are capable of curing peritonitis, it must be especially when they are induced in this manner; that is to say, in a way which acts on the whole surface and attracts to it all the fluids. However, I have very rarely observed any good effect arise from this mode of obtaining them. I do not recommend practitioners to have recourse to it; for it often occasions considerable fatigue to the patient, and it always becomes necessary to change the bed a short time after the fumigation, on account of the moisture with which it is impregnated; and this change cannot be effected without either pain or danger to the patient. We will be less astonished that artificial sweats are not productive of much good, when we remember that in peritonitis there is frequently a spontaneous perspiration which is neither accompanied nor followed by any amendment in the symptoms. *Nunquam sudore critico hunc morbum solutum vidi, &c.* (Willis, p. 188.)

As to the internal remedies administered for the purpose of provoking abundant perspiration I think it would be dangerous to employ any very active agents, which might accelerate the circulation, and produce an effect quite contrary to what was intended. We should limit ourselves to the use of warm drinks, which favor cutaneous perspiration when nature is disposed for it, and which prolong it when it actually exists. The diaphoretics, employed by certain practitioners from the two first days, frequently aggravate the disease. (Busch.)

I have insisted too strongly on the danger of confined air, for it to be necessary that I should say any thing here with regard to the inconveniences of keeping the doors, windows, and curtains completely closed, at the same time that we elevate the temperature of the chamber for the purpose of producing perspiration.

Though I attach but little importance to sweats, it must not, however, be supposed that I regard their suppression, when they exist, as altogether a matter of indifference. This would be doing injustice to my opinion. I do not attempt to produce them; but if they occur spontaneously, I certainly consider that their suppression would prove very dangerous.

ANTI-SEPTICS, TONICS, AND ESPECIALLY CAMPHOR
AND BARK.

Mead and Huxham, according to Doublet, prescribed camphor in the diseases of lying-in women. Pouteau appears to have been the first who discovered the good effects of this remedy in puerperal peritonitis.

During the spring of 1750, an epidemic prevailed at Lyon, which attacked puerperal females. This disease declared itself there three or four days after accouchement, sometimes later, by violent colic, together with abundant diarrhœa and considerable tension of the abdomen. "All the women who were attacked by this colic, and did not make use of camphor, died, as far as I could learn," says Pouteau, "from the strict inquiry I made." Pouteau was, at that time, principal surgeon at the Hotel Dieu of Lyon, and the great number of women delivered in this hospital caused him frequently to regret that no remedy had yet proved efficacious in removing the inflammation to which they were subject. He opened two of the bodies, and was satisfied of the existence of peritonitis.

“By an attentive inspection of these bodies,” says he, “I thought I perceived the evidence of erysipelatous inflammation : I then proposed employing a remedy which I had often used externally for erysipelas of the integuments.

“The next morning a female, who had been delivered eight days, experienced colic with tension and inflammation of the bas-ventre. Fifteen grains of camphor were dissolved in an ounce of the oil of sweet almonds : of this a potion was made with water and syrup, and the third of it was administered ; the remainder was given in the space of a quarter of an hour. The last dose only gave us hopes of success. A few grains of camphor were continued to be given every half hour ; and the patient was entirely cured after having taken thirty grains of camphor. I ordered additional camphorated potions to be prepared. I soon had occasion to use them, and the success was always the same.” (Surgical Observations, p. 180.)

Twenty years afterwards, camphor, so successfully employed by Pouteau, proved equally efficacious in Austria. Burserius, after relating the description, given by Fauken, of an epidemic in which all the characters of puerperal peritonitis were evident, adds : *Morbus etiam ille, qui an-*

no 1770, in nosocomii Sancti-Marci Viennæ, puerperis omnibus infensissimus fuit, ab initio pro inflammatorio habebatur, atque adeo sanguinis missionibus, at infelice semper eventu, oppugnabatur. Erat autem natura putridus, natæque ex eo inflammationes in gangrænam citissime desinebant. Inflammationes vero hujusmodi, manifesto malignæ et putridæ, sanguinis missionem nequaquam ferunt. Itaque, morbo accuratius examinato et recognito, suasu Cl. Storckii, omitti cæpta est sanguinis missio, et ejus loco dari camphora ad magnam dosim, cum cortice peruviano, itemque in clysmatibus ad drachmam unam pro qualibet injectione cum drachmis duabus gummi arabici subacta, et deinde unciis octo aquæ soluta adhiberi. Hac methodo anti-septica plures quam quadraginta servatæ dicuntur. (Instit. Med. t. 2, p. 341.)

Leake made use of a camphorated mixture, and Doublet observes that experience has taught him the advantage of employing bark and camphor together. Delaroche likewise assures us that he has obtained very good effects from it, but he recommends some reserve in its use. "Notwithstanding the success of M. Pouteau," says he, "and what I myself have observed with regard to the good effects of this remedy,

I do not consider it as a specific in puerperal fever. We cannot give it in very large doses without exposing ourselves to do great harm; and if we lose our time in trifling with too small doses, without employing other means, we will still be exposed to the greater evil of allowing the disease to progress, until it becomes altogether incurable. It is, however, true that it has effected extraordinary cures, and that, in the hands of a judicious and prudent physician, it may be regarded a very advantageous remedy." (Page 207.)

These certainly are imposing authorities in favor of camphor. Bark has frequently been associated with it, and great success attended the combination. This last remedy has likewise been highly extolled in peritonitis. To those already cited, such as Storck, Fauken, Burserius, Leake, Doublet, I will add White, Kirkland, John Clarke and Hamilton, to whom experience has often demonstrated its efficacy.

Delaroche, whose opinion is entitled to the more weight, he having regarded puerperal fever as an inflammation, recommended the use of bark. "It is in a city like London," he observes, "where certainly inflammatory diseases tend rapidly to gangrene, and particularly in extensive

hospitals, that I would wish prudent and enlightened practitioners to test this method ; and I am much deceived if they do not obtain sufficient success to warrant a repetition of it." (P. 212.)

Farther on, Delaroche cites a case of puerperal peritonitis, in which bark was administered conjointly with rhubarb. A cure was effected ; but the evacuations which occurred were perhaps more useful than the bark. Be it as it may, says he, it is very evident that it did not prevent the cure.

Doctor Masdeval, a Spanish physician, likewise recommends bark in the continued and remittent fevers of lying-in women, which many physicians have regarded as extremely dangerous, on account of the number of deaths they occasioned, notwithstanding the different modes of treatment previously employed. He rejects blood-letting, which would not be had recourse to, says he, were it not from a groundless fear of inflammation. (Ulliac. Inaug. Dissert. Paris, 1805, p. 37.)

Camphor and bark, employed alone or in combination, have not been followed by any very evident success, except in epidemic peritonitis. It is only when this disease is due to an alteration of the fluids—to the absorption of deleterious mi-

asmata—that these two remedies should be employed ; but we must be convinced, with John Clarke, that in order to obtain any good effects from these remedies, we should administer them at the commencement of the disease ; that, if we delay in the least, there may result such mischief that it will be impossible to remedy it. In puerperal peritonitis from external cause, when we have been unable to prevent the formation of an effusion, if it should happen that the effused fluid is absorbed too rapidly, perhaps the use of bark and camphor would then prove advantageous, in order to combat the accidents resulting from the introduction into the circulation of any heterogeneous principles. This may occur when blood-letting has been practised to excess, or at too late a period of the disease.

I think it better to employ the camphor and bark together, than to give them separately ; for in almost all the cases in which they have succeeded, they were administered in combination.

The mode of administering camphor related by Pouteau, and which is in general use in Germany, is also recommended by Doublet. It may, however, be given in pills, if the patient have any objection to take it as a potion. Delaroche em-

ployed it in powder, mixed with nitre and cremor tartar. We should not neglect to put it in lavements, after the manner related by Burserius.

The dose is very variable. It should not be given in too small quantity ; I have known but a few grains to have been administered to certain patients *en lavement*, but no good effects followed. We must be careful, however, on the other hand, that the dose be not too large ; it may determine alarming accidents, of which Hoffman and Pouteau report some examples, and even death may be the consequence. It is proper to give it in small quantities, frequently repeated ; it must be discontinued as soon as any unpleasant effects are observed, or a marked amendment declares itself. At least twenty grains should be taken in the first half hour. Fauken combines one drachm of camphor with two of gum arabic, which is suspended in eight ounces of some vehicle for a lavement. It is, no doubt, with camphor as with opium and other remedies, which may be taken without accident in enormous doses as long as the disease for which they are administered continues intense, but which will determine very injurious effects if we continue their use after the disease begins to yield.

As to bark, we may at the present day very advantageously replace it by the sulphate of quinine, either in pills or in solution, in a dose of at least from ten to twelve grains per day ; the same quantity may be given in lavement. It will be well to second these means by wine and water, (John Clarke,) sulphuric lemonade, sweet spirits of nitre (White.) This last author recommends very highly the use of carbonic acid gas, and especially the potion of Rivière. The water of seltz, natural or artificial, will advantageously replace this potion.

The opinion I have formed respecting the causes and nature of puerperal peritonitis, have suggested to me the idea of employing against this disease the chloride of soda or lime, either in potion, lavement, or as a wash. I communicated, in 1826, this idea to professor Deneux, who was at that time physician to the Maison d'Accouchement at Paris ; I think it was not put into practice. I know not how far these chlorides, which appear to have been very useful in the plague of the Levant, would have succeeded in puerperal peritonitis from internal cause. There can be no impropriety, it seems to me, in attempting their use ; and I am of opinion that, in all cases, it would be very advantageous to

have the chloride of soda in evaporation in the wards of the sick.

BLISTERS AND OTHER CUTANEOUS REVULSIVES.

Blisters have been very much condemned in the treatment of puerperal peritonitis; and notwithstanding the advantages attributed to them by Delaroche, they are rarely employed at the present day.

Si qui puerperis morbi supervenerint, says Manningham, in his omnibus adhibita vesicatoria inter tres primos dies periculum semper, sæpe mortem afferunt.

Baglivi is equally opposed to their use; and, in support of his opinion, he relates the following case, in which blisters were employed with evident disadvantage to the patient. *Mulier octo mensium gravida, juvenis et gracilis, integro octiduo doloribus ventris molestata, demum infantem peperit. Post partum adhuc continuabant dolores, cum insigni ventris tensione. Quoniam vero omne genus remediorum spreverat, vel potius neglexerat, demum a quodam medico quatuor vesicantia sibi apponi permisit. Lochia, quæ primum fluebant, exinde suppressa sunt.*

Paucis post diebus denuo apparentibus lochiis, abdomen graviter convelli cœpit cum insigni dolore, adeo ut ne digito quidem premi posset; exinde sudores frigidi cum refrigeratione extremorum apparuerunt; pulsus et respiratio erant diminuta, et fere ad extremum vitæ redacta fuit patiens. Elapsis paucis diebus, in melius aliquantulum procedebat; de repente tamen supervenientibus gravissima spirandi difficultate ex genere convulsivarum, et interdum in delirium se commutante, necnon alvi fluxu flavo et fetido, qui per octo dies continuavit, demum decima septima die morbi obiit patiens. (Oper. p. 590.)

John Clarke expresses himself in a very absolute manner against blisters. "It is certain," says he, "that in this disease they augment the irritation to a surprising degree, and render the pulse more frequent than it was before. They appear to diminish for a short time the painful sensation; but this relief is only momentary, and is not sufficient to authorise their use, because their bad effects counterbalance any advantage we may expect to derive from them. In one case an application of blisters on different parts was proposed, and the patient recovered; but a similar treatment in other instances, far from producing the same effects, destroyed all the hopes

inspired by the success of one particular case." (P. 105.)

Delaroche considers that he is the first who recommended blisters to the abdomen. "In every sort of inflammatory disease," says he, "we should apply them as near as possible to the affected part, if we wish any good effects to be produced; otherwise we will not obtain the revulsion we desire, or at least it will be very imperfect; and the irritation they excite in the sanguineous system not being balanced by any direct effect on the inflamed part, there frequently results more harm than good. No practitioner, as far as I know, ever advised blisters on the bas-ventre of lying-in women, though this mode of application certainly promised the most success in inflammation of the intestines. I applied them in this way once without any favorable or bad effect." (P. 203.) At a later period, Delaroche had occasion to repeat their use, with some appearance of success. This was in the case of a patient whom he saw in consultation with Baudelocque and Ané. But before having placed a blister on each iliac region, two bleedings from the arm had been practised and ipecacuanha administered, and it is very possible that the blister had but little to do with the cure. I am the more in-

clined to this opinion, as professor Marjolin assures us that he has repeatedly found the peritoneum most inflamed in those points which corresponded with the blisters. A similar observation has been made by F. A. Thounel, at the Hotel Dieu of Amiens. (Inaug. Dissert. p. 23.) This may be explained by recollecting that the most painful points are selected, and consequently the most inflamed, for the application of the blisters; but the examination made by M. Marjolin does not the less prove that the blisters had not succeeded in arresting death.

Professor Recamier has not obtained any good effects from them (Culmet. Inaug. Dissert. p. 17;) at the hospital of St. Louis, where they are often used, either on the abdomen or thighs, they have not proved more satisfactory. We read, in fine, in the 14th vol. of the *Journal of the Progress of Sciences and Medical Institutions*, p. 229, that "blisters employed prematurely never fail to cause delirium and an exasperation of the symptoms. We were obliged several times to remove them after a few hours, or to mitigate their action. In three cases, they had such an influence on the urinary organs, that it became necessary to introduce the catheter; and at the autopsy, the

bladder was found thickened and injected. In but one case only did they prove successful."

I agree entirely in opinion with those practitioners who reject the application of blisters on the abdomen, thighs or elsewhere, during the first period of the disease. At a more advanced period, if the strength is languishing, and particularly if there be any cerebral complication, they may become useful. The following is a case in which their use was evidently indicated.

"A female, thirty years of age, laboring under considerable grief, and already subject to frequent attacks of fever before her accouchement, was successfully delivered the 5th November, 1782, at the hospital of Vaugirard. On the 7th, she was seized with a chill, and an emetic was given at the very moment. The next day, the fever was high, face colored, pulse flabby, abdomen painful, and the evacuations frequent. I repeated the emetic; the mammæ, which appeared to enlarge the two first days, now became flaccid. From the third to the sixth day of the disease, there was anxiety, great thirst, bilious diarrhœa, and frequent sweats, with tenesmus. The patient took tamarind water, and an infusion of borage and honey; an oily potion, together with

the kermes, was also administered. From the sixth to the eighth day, the abdomen became very large, although always soft; the diarrhœa was moderate, but the excreted matter possessed a black color; the pulse small, and very frequent; there was slight delirium during the day, which, however, became more evident at night. The face, however, did not exhibit the exhaustion common in this disease; and as the patient, at the moment of her confinement, had a number of suppurating tumors on the scalp, and as this suppuration had almost entirely ceased during the disease, I ordered blisters to be applied to the legs; bark was added to the tamarinds. At the end of four days, the blisters being in full suppuration, the pulse was better, and the head more tranquil. From the fifteenth to the twentieth, the abdomen fell, the diarrhœa became bilious, and the nights began to be comfortable. The patient was convalescent on the twenty-second day." (Doublet, p. 253.)

Blisters, in my opinion, should not be applied to the abdomen, except when, in cases of effusion, we wish to favor its absorption. I think that it is proper to abstain from them at every other period, and in my opinion we should never make them a principal means of treatment.

Sinapisms on the abdomen, recommended by Busch, do not appear more entitled to credit.

We may, with a view to procure a revulsion towards the inferior extremities, or to favor the return or abundance of the lochiæ, employ, in preference to blisters, and with much less inconvenience, warm cataplasms of flaxseed to the feet and legs. It will be advantageous to envelop the feet, legs, and a part of the thighs, in flannel. We will in this way preserve an abundant perspiration in these parts. We should not neglect, in other cases, to place at the feet a hot body, such as boiling water, a heated brick, &c. These means do not increase the irritation; they have the advantage of effecting towards these parts a revulsive effect.

I shall not again speak of the cupping-glasses, to which I have already alluded, in treating of sanguineous emissions; I will merely state that they were employed without success at the Hotel Dieu in Paris, in the epidemic of 1774, and that they were soon abandoned.

THE AFFUSION OF COLD WATER, AND THE APPLICATION
OF REFRIGERANTS TO THE ABDOMEN.

A great number of remedies had been employed without success, at the Hotel Dieu, against puerperal peritonitis; the mortality was so frightful, that Doulcet, before his first success with ipecacuanha, had abandoned the service of the lying-in women, and exchanged it for one of the most arduous in the hospital. Under these desperate circumstances, Sigault conceived the idea of affusions of cold water on the abdomen. This remedy was not attended by any greater success than the others. It had but few partizans, notwithstanding the assertion of Robert Thomas, who stated that doctor Sutton had obtained good effects from the application to the abdomen of camphorated cold water,—notwithstanding the advice of Hufeland, to use cold cataplasms when the tumefaction of the abdomen is considerable—notwithstanding the benefit which Van Swieten and Sarcone tell us they derived from the application of cold fomentations.

Recently, however, physicians have proposed in puerperal peritonitis to place ice upon the ab-

domen. Two individuals had been subjected to this medication—repercussive without doubt—and recovered perfect health. It is proper to remark, however, that, in the first case, the application of ice had been preceded by a bleeding of sixteen ounces. I have not the details of the second. (See the *Journal of the Royal Society of Medicine of Toulouse*, 1827.)

It would be difficult to name a remedy, in favor of which some success, real or apparent, could not be cited. It is a well-established fact, that nature sometimes triumphs over both the disease and remedies.

Two cases are not sufficient to establish the efficacy of a medication; a much greater number is necessary, and at the same time a candid avowal of its success as well as of its failure.

I do not think that we should absolutely reject affusions of cold water, and the application of ice to the abdomen; but I should not be willing to employ them, except under circumstances similar to those in which Sigault found himself placed, and after having failed with other remedies much more rational, and the efficacy of which is much better established. I should likewise be particular to use them at the commencement of the disease.

What I have just said of refrigerants applies to these remedies considered as the principal medication. If I view them merely as auxiliary, I would remark that we may sometimes derive great advantage from the application of cold cataplasms or of ice to the abdomen, as recommended by Schumaker and Cullen, when there exists a considerable inflation of the intestines.

This chapter will be found in the memoir which I addressed to the Royal Society of Medicine of Bordeaux. The committee regret that I should have said so little respecting the use of refrigerants. I have never employed them myself, nor have I ever seen them used by others, and the new researches I have made furnish me with nothing additional in their favor ; so that I do not feel myself authorised to modify what I at first wrote relative to this species of medication.

SUB-CARBONATE OF POTASH.

Several authors have advanced that the sub-carbonate of potash determines perspiration. This sudorific effect is not constant ; it may even be contested. The idea of a specific action has

moreover been attached to this remedy ; and it is for this reason that I here refer to it.

Tissot, in 1771, had recommended against milky effusions the oil of tartar by decantation, at the present day called the sub-carbonate of potash ; he gave twelve, fifteen or twenty drops three or four times during the day, in a little water, broth, or ptisan. Van Stichel and Van Derbelen have highly extolled this remedy, which Allan and Lafisse have likewise employed with success. It was, however, but little known, when, in the year vii., doctor Guinot endeavored to bring it into notice. He presented to the Society of Medicine in Paris a memoir, in which he first stated the hypothetical notions and experiments more or less conclusive, which had induced him to employ the sub-carbonate of potash, which he regarded as an agent proper to prevent the coagulation of milk effused in the abdomen, and to dissolve that which had already coagulated. He then relates seven cases of puerperal peritonitis, which he successfully treated by his favorite remedy, aided always by leeches, laxatives, blisters to the legs, lavements, and emollient fomentations. In reading these cases, we may be permitted to contest the efficacy attributed by doctor Guinot to the sub-carbonate of potash ; and, not-

withstanding the sanction given by M. Dubosc de la Roberdière, a physician at Vire, to this mode of treatment, I would never advise any one to lose time in the employment of a remedy, the entire merit of which reposes more on superannuated theories, than on experience. I will, however, mention, for the benefit of such as wish to use it, or at least employ it conjointly with other remedies, that doctor Guinot gave it in a dose of from twelve to fifteen grains in a potion of four ounces; he gradually increased it to twenty-four grains. He sometimes gave at the same time a drachm of the sub-carbonate of soda in lavement. (General Journal of Medicine, t. 7.)

For some time past, doctor Bally has desired to make a new trial of the sub-carbonate of potash in the treatment of puerperal peritonitis. On two occasions, this remedy, instead of advantageous effects, seems to have given rise to fatal accidents. We observe the following on this subject in the *Lancette Francaise*, t. 2, No. 66, p. 262:

“The method of Louvain has proved fatal to a young patient, whose disease, being rather slight, would no doubt have yielded to the ordinary remedies. For the second time the sub-carbonate of potash merely removed the phlegma-

sia, against which it had enjoyed, during the course of an epidemic, a specific virtue. . . . In the case we are about to describe, the peritonitis had indeed disappeared ; but obstinate vomiting, together with a violent gastritis, occasioned no doubt by the new remedy, succeeded to it, and nothing could arrest their progress.

“A young girl, twenty-one years of age, endeavored to conceal her pregnancy by means of tight bandages. At the sixth month, she was taken with violent pains, and delivered of a dead child. Until the fourth day, the lochial evacuation was natural, the breasts enlarged and excreted milk ; the patient was comfortable, with the exception of slight colic. All of a sudden, the abdomen increased in size, the lochiæ became arrested, and the umbilical region was sensible on pressure. The patient went to the Hotel Dieu ten days after delivery. Mouth bitter ; breasts flaccid ; pulse rapid, but developed ; constipation ; the face was not changed ; respiration oppressed ; there existed on the right side the *râle sibilant*. Twelve grains of the sub-carbonate of potash in eight ounces of liquid ; three pots of ptisan of dog-grass.

“On the second day, 22d September, five or six fluid evacuations. The region of the umbilicus

continued to be exclusively painful. The patient slept during the night, but in the morning she ejected a greenish matter which quickly imparted a green color to the copper vase. Tongue red; urine abundant; abdomen somewhat larger than natural, but flexible. The same dose of potash; hydromel.

“ 24th of September, four evacuations; pain in the umbilical region. Nothing remarkable occurred during the two following days; the sub-carbonate of potash continued to produce the same effect.

“ The 26th, chill for one hour and a half, followed by heat; tongue dry and red on its borders; the left half of the abdomen painful; yellow vomiting; slight urine; pulse ninety. Fifteen grains of the sub-carbonate of potash; ptisan of dog-grass; hydromel.

“ The 27th, three evacuations during the night. The symptoms of gastritis declared themselves; those of peritonitis disappeared; to the redness of the tongue and vomiting were added pain in the epigastrium, cephalalgia, and urgent thirst. Eighteen grains of potash, hydromel, ptisan of dog-grass and gum; four cataplasms to the epigastrium.

“ The 28th, *idem*. The 29th, the symptoms

were aggravated ; pupil dilated ; great agitation during the night. The sub-carbonate was suppressed ; the other remedies continued.

“ Until the 5th of October same state and same prescriptions.

“ The symptoms continued to increase, and death occurred on the 21st. The applications of ice to the epigastrium, fifteen leeches on the same region, and two small moxas, had been employed without success.

“ The epiploon adhered to the superior border of the uterus ; several portions of the intestines were agglutinated to each other. The mucous membrane of the stomach, particularly towards the large curvature, was very much inflamed ; there even existed at this point a brownish spot the size of a franc piece. The other organs did not present any remarkable alteration.

“ The fatal complication of gastritis, of which this patient died, too speedily followed the use of the carbonate of potash, for us not to consider it as the effect of this medicine. It is true that gastritis may occur during the course of any disease ; but, in the present case, does not the excessive obstinacy of the vomiting prove that the stomach was continually irritated by the contact of this substance ?”

Another fact analogous to this is recorded in a previous number of the same journal. The two cases of doctor Bally do not certainly offer much encouragement to practitioners who, having confidence in the efficacy of the sub-carbonate of potash in puerperal peritonitis, desire to make trial of it. We have seen that this remedy is not exempt from danger, and its administration claims great caution.

ESSENCE OF TURPENTINE.

In 1812, there prevailed in the hospital and city of Dublin an epidemic puerperal peritonitis, which was followed by considerable mortality. Venesection, blisters, and purgatives of every sort, had proved ineffectual in arresting the disease, when doctor Brenan, and not Bernard, as is mentioned by Burns in the third edition of his *Principles of Midwifery*, and has since been repeated in the different memoirs and inaugural dissertations; when, I say, doctor Brenan suggested the idea of employing the essence of turpentine internally, and in fomentations on the abdomen, against this terrible disease. I shall not trouble the reader with the various reasons which seemed to justify doctor Brenan in the use of this reme-

dy. I think it, however, proper to state, that of the six cases (by no means in detail and otherwise incomplete,) which he mentions, three died ; in two others, to the turpentine were joined sanguineous evacuations, &c.

It would appear, from these cases, that the first effect of this remedy is to calm the colic, to cause a cessation in the pains occasioned by pressure, and also to remove the swelling of the abdomen ; these results are ordinarily obtained in the space of a few hours.

Doctor Brennan gives one or two spoonful of the oil of turpentine in a small quantity of warm water and sugar ; the abdomen is rubbed with the same oil, and a flannel wet with it is suffered to remain on.

The remedy is several times renewed after a few hours, as necessity may require. (*Thoughts on Puerperal Fever and its cure by Spirits of Turpentine, &c. by John Brennan. London, 1814.*)

The oil of turpentine was employed in 1815 by doctor Th. Atkinson, in a case of puerperal peritonitis ; this case was recorded in the *Medical and Physical Journal*, June, 1815, and afterwards translated into French, and inserted in the 55th volume of the *Recueil Periodique*

des travaux de la Société de Médecine de Paris ; it does not appear to me to be more conclusive than those mentioned by M. Brenan. Blood-letting and purgatives, it is said, were employed with advantage ; at a later period, the pains having again manifested themselves, two drachms of the oil of turpentine were given in a small quantity of peppermint, and procured considerable relief in about twenty minutes. The same remedy, repeated four times in the space of four hours, produced several evacuations, and convalescence was established.

In fine, doctor Kinneir, a physician of Edinburgh, states that the oil of turpentine has been employed by several of his colleagues and by himself with the most marked success in puerperal fevers. He administered it in the dose of one or two drachms, in an emulsion of almonds, or mixed with an equal quantity of simple syrup and an ounce of distilled water, to be taken at one time. The same dose is to be repeated every three or four hours, until the pain and other symptoms of the disease become diminished ; he preceded this remedy by blood-letting and a calomel purge.

Kinneir remarks that it is rarely necessary to repeat the dose more than two or three times.

We must, however, have recourse to it again, if, after an intermission, the symptoms increase in severity. This remedy, says he, acts by relaxing the intestines, or at least by continuing the cathartic effect produced by the purgatives previously administered. The patient rarely ejects it by vomiting. Fomentations of warm oil of turpentine on the abdomen may be used in all cases of puerperal fever. A great number of females on whom Kinneir employed them, experienced a sudden diminution in the pain and other symptoms of the disease. (Medical Review, t. 4, p. 318.)

Such is the succinct exposition of all the facts in my possession respecting the use of the oil of turpentine in puerperal peritonitis. I have never employed this remedy myself, nor have I seen it used by others; and what I have read on this subject is not sufficient to justify an opinion either with regard to its advantages or inconveniences. As I have already remarked, the observations of Dr. Brenan are neither sufficiently numerous nor detailed to satisfy us on this subject. The case of Atkinson is not more conclusive. From what Dr. Kinneir has observed, I should be inclined to regard turpentine as a purgative, and if so, it is not entitled to any specific

action. He did not employ this remedy until having had recourse to sanguineous emissions and purgatives. But it is worthy of remark that MM. Brenan, Atkinson, and Kinneir all agree in admitting the promptitude with which the pains and swelling of the abdomen disappeared after the use of the oil of turpentine. Twenty minutes frequently sufficed to produce this effect, and there is no other purgative that has been followed by so speedy a result.

As extraordinary as this may appear, it is difficult to doubt it; a number of respectable physicians at Edinburgh witnessed the fact. If we were to take into consideration the exciting properties of turpentine, we certainly would have reason to be opposed to its use in an inflammatory disease.

“But the nature of the inflammation and the mode of action of certain agents capable of combating it are,” remarks Kinneir, “involved in great obscurity; the facts exist, and should not be neglected by the practitioner because he is unable to explain them, or because they do not accord exactly with the theories formed in advance of any particular disease.”

I will conclude this subject by merely remarking that, this remedy being one of the least rational, and the efficacy of which is not fully de-

monstrated by experience, it would not be proper to employ it except in very dangerous epidemics, which resist all the other modes of treatment.

MERCURIAL PREPARATIONS.

The mercurial preparations have been resorted to for a long time in the treatment of acute inflammations. Since the year 1764, Robert Hamilton prescribed them with success in hepatitis, pleuritis, and the fevers of lying-in women accompanied by violent inflammatory symptoms. They were frequently given in doses sufficient to determine salivation. In Germany, G. Vogel and J. C. Reil obtained very great advantage from the use of the same remedies in acute phlegmasia.

Calomel has been employed as a purgative in puerperal peritonitis by several practitioners, who gave it in small quantities in combination with other medicines.

In 1811, there prevailed in the eastern part of Somerset county, in England, an epidemic puerperal fever, which proved so fatal to lying-in women, that, for several months after its appearance, not one individual escaped. Dr. Bradley administered calomel in large doses as a purga-

tive ; and the following case is, as far as I know, the first in which mention is made of the action of mercury on the salivary glands :

“ Madame Wood, thirty-two years of age, of a sanguineous temperament, was attacked the 6th of December, eighteen hours after the birth of her first child, by a violent chill, followed by nausea, heat, and severe pains in the hypogastric region, particularly towards the left side. Eleven hours after this attack, she complained of very acute pain and tension in the inferior portion of the abdomen, so that she could not bear the slightest pressure on this part. The pulse beat one hundred and twenty-two in a minute ; it was small and irregular, and the patient experienced great thirst ; the tongue was considerably coated, almost yellow, and the abdomen excessively tense ; the urine flowed in tolerable quantity, but the lochial evacuation was slight and irregular. There had been no appearance of any secretion of milk. The patient was obliged to remain on her back, and somewhat towards the right side ; the respiration slightly oppressed, but unattended by pain or cough ; there was, however, severe cephalalgia.

“ Eighteen ounces of blood had been abstracted, which relieved the pain ; the blood presented a buffy appearance. A purgative was then ad-

ministered, but without any effect. Fifteen grains of calomel were ordered to be taken immediately, followed by a scruple of jalap and eight grains of nitre in a potion. Glysters of barley-water, brown sugar and castor oil, were administered. She was ordered to drink abundantly of barley water, tea, and chicken broth. In the course of six hours, she had five evacuations; the pulse was less irregular; the tongue continued the same; the patient felt relieved by every successive evacuation. Six grains of calomel and as many of jalap were ordered, after which a dose of epsom salts was administered; the purgative was repeated every four hours, but the calomel and jalap were reduced to five grains. These powders, aided by lavements, procured about ten copious evacuations. In the evening the pulse preserved the same type as in the morning, but more regular and distinct; thirst diminished; tongue not so much coated, and less yellow; the pain and sensibility of the bas-ventre were likewise considerably diminished. However, a considerable and circumscribed hardness occupied the hypogastric region; the face was highly colored. In the evening, she slept two hours.

“On the morning of the 7th, the pulse was small, and at one hundred and twenty, but it was softer and more regular; the patient slept about

the third of the night. The tongue was yet coated, but somewhat whiter; thirst less intense; there had been considerable heat during the night, and the face continued very much colored; the pain and tumefaction of the abdomen diminished, so likewise did its hardness; the lochiæ flowed, but in small quantity, and in an irregular manner. In the evening, the pulse was soft, more regular and elevated—one hundred and eight; tongue cleaner; thirst more moderate; urine paler; skin more moist, and not so hot. During the last twenty-four hours, the patient had taken thirty-six grains of calomel, thirty-one of jalap, and half an ounce of the sulphate of magnesia, in three equal doses, at intervals of six hours; she had from nine to ten liquid evacuations, the greater part of which were slimy and abundant. The camphorated ammoniacal liniment was ordered to be rubbed on the abdomen two or three times during the day.

“The 8th, an exacerbation of the symptoms, which continued for two hours; in fine, a notable diminution after a copious evacuation, the first which had occurred for six hours; the lochiæ returned. The pulse one hundred and six; it was soft and small; the tongue became still cleaner; thirst diminished; skin moist; the patient

enjoyed a few hours comfortable repose; the breasts were distended by the milk; the child was applied to them.

“The 9th, the patient complained of sore mouth. In the evening, the pulse one hundred and four; the abdomen not so tense nor painful; the pain appeared in great part fixed in the hyogastric region. The ordinary purgative was repeated three times, which occasioned eight evacuations affording great relief to the patient without debilitating her.

“The 10th, pulse one hundred; night tranquil; skin moist; heat natural; abdomen soft, and without pain, except on strong pressure; the milky secretion was well established; the lochiæ in small quantity. Eight grains of calomel with an equal quantity of jalap were given, which procured four mucous evacuations. The patient asked for food; she was permitted to take broths somewhat stronger than before.

“The 11th, night tranquil; same state as on the preceding day; secretion of milk sufficient. In the twenty-four hours the patient took only six grains of calomel and as many of jalap. The purgative was repeated but once at the end of eight hours. She had eight alvine discharges during the day. The patient complained of

pain in the intestines, together with sensibility and tension of the abdomen ; however, the pulse was soft, and at ninety-six ; the tongue clean ; lochiæ arrested. Instead of the purgative, half a drachm of the sulphate of magnesia was prescribed every two hours, with lavements.

“ The 12th, night comfortable ; disappearance of the pains ; the patient sat up nearly the whole day, and had a very good appetite.”

She continued to improve until the 15th, when certain symptoms manifested themselves in the chest calling for the employment of new remedies, and retarding for some time convalescence.

I have extracted this case from the *History of Epidemic Diseases*, by Dr. Ozanan, t. 2, p. 290. Perhaps it would have been more proper to place it in the chapter devoted to purgatives ; but I have determined to insert it here, because it is the first case in which any mention is made of the sore mouth ; and we observe that, from this moment, the patient continued to improve.

The French physicians have likewise employed mercurial preparations in the treatment of puerperal peritonitis. In 1807, according to M. Dumas, in 1812, according to Dufour, (Inaug. Dissert, p. 47,) Chaussier ordered a drachm of

mercurial ointment to be rubbed every morning on the abdomen of such females as were affected with this disease. Laennec and M. Lermnier employed in chronic peritonitis this same ointment, which Dr. Ozanan recommended under similar circumstances in 1818.

But the honor of having proposed and employed mercury as a principal means of treatment in puerperal peritonitis, belongs entirely to Dr. Vandenzande, professor in the civil hospital of Anvers. This physician was in despair at the ill success of all the remedies prescribed in peritoneal inflammation among lying-in women. All those affected with this disease in the wards confided to his care perished. He observes that, for nearly two years, the absolute failure of all the known remedies, rational as well as empirical, established in our minds, both professors and students, the opinion that peritonitis resisted all the resources of our art, and must necessarily prove fatal, and that all we could promise ourselves from the different methods was to prevent its development.

A patient, more fortunate than the rest, escaped the accidents of the acute period; the disease passed on to the chronic stage with effusion in the abdomen. Before having recourse to puncture, doctor Vandenzande tried the effects of ca-

lomel, and the most triumphant success followed this attempt. He then conceived the idea of employing this remedy in the acute stage; he soon had an opportunity of testing it. He furnishes us with the following case:

A female, aged twenty-seven years, of a temperament more phlegmatic than sanguineous, in the eighth month and a half of her pregnancy, and laboring under an intermittent fever, of which she had experienced five attacks, had been placed, when she entered the hospital, (10th of March, 1810,) in the large ward assigned to females. She had been two days delivered, after a severe labor of thirty-six hours, when her child, attacked by convulsions, expired under her eyes. Notwithstanding the different means employed in order to remove a violent nervous attack, which was repeated several times during the day, the patient on the following morning was evidently affected with a very dangerous peritoneal inflammation. Abdomen enlarged and painful; pulse small, quick and corded; cheeks colored; eyes fixed and haggard, as in the most part of hysterical women; lochiæ suppressed; breasts not entirely empty; no evacuation since her accouchement. M. Vandenzande ordered powders, composed of

four grains of calomel, as much of the extract of henbane, and a quarter of a grain of the gummy extract of opium, to be taken every four hours; warm fomentations of the decoction of poppy heads, (an ounce to a pound of water,) applied with a flannel over the entire abdomen; barley-water as a drink, and some light broth for nourishment. In the evening, the patient had taken three powders. She had not vomited; the abdomen was inflated; the slightest pressure excited insupportable pain; the pulse, hard and small, exceeded one hundred and twenty; the least movement on the sides occasioned shrieks from the patient; the face was changed; the patient had not urinated; the catheter was introduced; she took two more powders; the fomentations continued.

The next morning, the second day of the disease, after a violent exacerbation of the pains and fever during the greater part of the night, the patient, about six o'clock in the morning, had two liquid and infectious evacuations, which debilitated her exceedingly; the abdomen was more developed than on the preceding day, and painful in its whole extent; skin dry and burning. Continuation of the powder every four hours, with

half a grain of opium; demi-lavement every three hours of a decoction of poppies, to which starch was added with a view to calm the pain and prevent new evacuations. In the evening, nearly the same state; no evacuation. The patient had taken three powders and three lavements, which had not been returned. In addition she took two powders, and an anodyne julep.

Third day, the exacerbation was less violent; abdomen continued tumefied, but not so tense, and less painful; pulse small, softer and less accelerated; skin moist, tongue humid, thirst diminished. There was one liquid evacuation. Continuation, as on the preceding day, of the powders and lavements. The fomentations were replaced by a liniment composed of two ounces of the oil of henbane, half an ounce of ammonia and of the tincture of thebes, and two drachms of double mercurial ointment. In the evening, the patient complained of a copperish taste in her mouth; and it was observed, with much satisfaction, that the gums were red and tumefied, and the breath impregnated with an odor peculiar to mercury. The abdomen was now less painful and tense; the *mammæ* began to resume their previous size; remarkable dimi-

nution in the fever. The patient demanded permission to eat some *soupe à la bière* with the yolk of an egg and sugar; she was told she could have it on the following day. She was allowed a stronger broth. One powder and an anoydne julep with an ounce of the syrup of white poppies were ordered.

Fourth day. The breasts filled with milk; gums much swollen; slight perspiration; very little pain in the abdomen. The frictions with the volatile liniment continued; astringent gargle; a decoction of lichen to be taken by spoonful; more generous regimen; rice soup, two eggs, &c.

Convalescence was established. In a few days the cure was complete. The patient had taken fifty-six grains of calomel, and yet the salivation was of but short continuance.

"We should be gratified," says M. Vandenzande, "if all professional men who may read this interesting fact of practical medicine, could feel the same degree of satisfaction and happiness, which we experienced from it. It would be for us a sure guaranty that they would not hesitate to adopt a treatment, which we can say with much security has no equal as yet known."

Other cases soon confirmed the hopes which this author had conceived. They are recorded in the work he published in 1821.

After peritonitis has declared itself, doctor Vandenzande prescribes calomel combined with henbane and opium, as we noticed in the above observation. He is satisfied that the principal curative effect resides in the calomel, and that the henbane and opium serve to tranquilize the agitation, which sometimes accompanies peritonitis. As we consider the calming the pain, observes this practitioner, as the most pressing indication, we associate with the powders, sedative lavements, and fomentations of the same nature to the abdomen. Absolute repose; rigid diet; emollient and pectoral ptisan for drink. We know but two accidents capable of contra-indicating the administration of calomel, these are vomiting and diarrhœa. In the first case, it has always been replaced with success by frictions of mercurial ointment (four, six, or eight drachms per day.) After the vomiting has ceased, we use the calomel, but in smaller doses at first, without discontinuing the frictions.

In the case of diarrhœa, it is not always necessary to suppress the calomel; it will suffice most usually to increase the dose of opium. Should

the diarrhœa, however, continue and augment, we must abandon entirely the first remedy, and have recourse to mercurial frictions.

We can most usually judge of the probable termination of the disease before the fifth day.

The salivation is rarely considerable ; its first indications are sufficient for us to pronounce a happy termination of the disease. It is necessary to remark that, when the symptoms of inflammation rapidly attain their highest degree of development, the calomel and narcotics should be prescribed from the commencement in large doses ; the cure will depend upon a rigid observance of this rule.

On the first day, we prescribe twelve or fifteen grains of calomel, with an equal portion of the extract of henbane, and, if it be judged proper, one or two grains of opium. Fomentations and demi-lavements of the decoction of poppy heads and the bark of mallows or flaxseed, repeated every three or four hours, are so many emollient sedatives, which are carried to the nearest possible point of the seat of the disease ; they moreover have the advantage of preventing frequent intestinal evacuations, provoked by the calomel, as well as the vomiting, so difficult to arrest.

We continue this sort of medication until the pains are notably diminished, which scarcely ever occurs before the third day, and the state of the pulse and febrile symptoms indicate resolution. This last is almost always announced, as we have already remarked, by a slight swelling of the gums, and the other indices of approaching salivation.

The mercurial frictions are intended to replace the calomel, or to serve as an auxiliary to it. In cases of rebellious diarrhœa or obstinate vomiting, we have frequently used an ounce of ointment per day, rubbed on the internal part of the thighs and abdomen, when the patient could bear pressure on the hypogastrium. We employ these frictions as auxiliaries whenever the calomel does not answer our object in a given time. For this purpose, we use from two to four drachms during the day.

I shall terminate this history of Vandenzande's method of treatment with one of his observations relative to the good effects of mercurial frictions.

A woman, whose husband had been guillotined a few days after her accouchement, was seized, at this news, with peritonitis, accompanied by very obstinate vomiting. Three ounces and a half of mercurial ointment were used in

the space of four days, and at the same time we endeavored to appease the pains by emollient fomentations and lavements, rendered narcotic. This woman was cured, and only experienced a very slight salivation. She afterwards continued to nurse her child.

Since the publication of M. Vandenzande's memoir, the mercurial preparations have been much employed in France in the treatment of puerperal peritonitis. A number of cures have been recorded in the different medical journals. A dissertation on the efficacy of mercurial preparations in puerperal peritonitis, was presented in 1828 to the Faculty of Medicine in Paris, by M. Dusoir. There are in the General Archives of Medicine, two memoirs, in which it is attempted to deprive the physician of Anvers of part of the credit attached to his discovery, because, instead of ordinarily having recourse to calomel, mercurial frictions were preferred; and because, in place of using these frictions *on the interior of the thighs and abdomen, when the patient can bear pressure on the hypogastrium*, they were employed on the abdomen and thighs. "No physician," they contend, "ever had recourse in acute puerperal peritonitis to mercurial frictions, in the dose of two or three drachms every two

hours, and as a principal and sometimes an only remedy." The author of these lines assuredly could not have read the work of Vandenzande ; for it is very evident that, if this practitioner most generally prefers the use of calomel, there are particular circumstances in which he advises the exclusive employment of mercurial frictions. He expresses himself clearly on this subject in several different places, at pages 91 and 113 for example, where he states : "I am not aware that any one of these professors (alluding to MM. Siebold, Horn, Osiander, &c.) has employed mercurial frictions in as large quantity as we have done, in cases in which the stomach could not bear any medicine."

Notwithstanding all that may be done or said, it is very evident that but little remains to be added to what M. Vandenzande has written, with regard to the use of mercurial preparations in puerperal peritonitis. It is impossible to rob him of the glory of having been the first to propose and employ against a disease so often fatal, a mode of treatment which already has arrayed in its favor a large number of successful cases ; and when we examine the facts with attention and impartiality, we will easily be convinced that the important changes, the great modifications which

this treatment has undergone, amount to mere trifles.

The work of M. Vandenzande is one of fidelity. Without denying the advantages of other remedies, without exaggerating the inefficiency of other modes of treatment, he remarks, in imitation of Baglivi, that he practiced at Anvers, where the inflammatory character did not prevail in the disease. He objects altogether to sanguineous evacuations in the treatment of puerperal peritonitis.

I have never myself employed, nor have I ever seen calomel and mercurial frictions exclusively used ; I do not know if it has yet been done in France. The calomel and frictions are had recourse to by us after having employed sanguineous emissions, or simultaneously with these emissions. I have witnessed the good effects of this plan of treatment in cases which appeared desperate ; but much more frequently it has happened that the patients died without any indication of salivation, after having used several ounces of mercurial ointment, and likewise several drachms of calomel. Perhaps in some cases the sanguineous evacuations may have been carried too far. In 1823, at the Maison d'Accouchement in Paris, professor Deneux administered mercury both in-

teriorly and exteriorly, in very large doses; the thighs and abdomen were covered with mercurial ointment several times during the day, and twenty-four grains of calomel were given in six doses. I recollect having witnessed the cure, in a very few days, of a female who had reached the sixth day of the disease when this treatment was commenced with. She had a considerable effusion in her abdomen, and this cavity was inflated to an extent that threatened suffocation. The salivation was considerable and obstinate. It was the first case in this institution in which mercurial preparations, as a principal means of treatment, had succeeded.

I have observed several very obstinate salivations accompanied by considerable swelling of the tongue, gums and cheeks; these parts were covered with apthæ, and excessively painful ulcerations.

I have always remarked, as M. Vandenzande observes, the salivation to be a certain indication of convalescence. Several cases, however, have been published in the medical journals in which death occurred notwithstanding the development of the salivation; a case is cited of a patient who died of gangrene of the posterior fauces, occasioned by mercury.

The approach of salivation has been repeatedly announced to me by the mercurial breath, which was already perceptible, when we could detect nothing in the appearance of the gums ; I may as well remark here that I have obtained very good effects from the use of pastils of the chloride of lime in changing this disagreeable breath, which is more unpleasant to the patient herself than to those who attend her.

Before expressing my opinion with regard to the curative method of doctor Vandenzande, I will remark that, in all cases of puerperal peritonitis from external cause, I should not hesitate to employ sanguineous evacuations combined with purgatives. If I did not succeed in arresting the disease, and an effusion began to form, I should instantly have recourse to mercury ; for now it is not merely an inflammation I have to combat ; a portion of the effused matter is absorbed, and becomes mixed with the blood, the composition of which it changes, and I believe that it is especially for the purpose of combatting this change that the mercurials are efficacious.

The following is a remarkable example of their utility in a case in which it was not possible to have recourse to sanguineous emissions.

A cook, aged 21 years, after a severe pregnancy which gave her much uneasiness, was naturally delivered at the hospital of the School of Medicine, 30th September, 1826. Immediately after delivery, she was removed in her bed with all the precautions necessary to avoid exposure to cold. Notwithstanding this, she was seized with a chill more violent and longer than usual. This was soon followed by fever, colic and slight pains in the whole abdomen.

The first of October, the patient had not slept during the night on account of the severe colic she experienced; the abdomen was sensible on pressure, particularly towards the groins, and principally on the right side; the lochial discharge was diminished; pulse full, hard and frequent; skin dry and burning; thirst slight; the tongue was covered with a whitish paste. Infusion of linden sweetened with the syrup of gum; absolute diet. In the evening the symptoms augmented in intensity; the lochiæ entirely suppressed; forty leeches applied to the abdomen.

The 2d, blood flowed all night from the bites of the leeches; the patient observed that her pains were not quite so intense; the abdomen was less sensible on pressure, but more inflated; the pulse was neither so hard nor fre-

quent, but was very small ; the skin less dry and hot ; there was even slight moisture ; the lochiæ had not re-appeared ; constant tendency to syncope. Infusion of linden with the syrup of gum, embrocations to the abdomen, with an anodyne liniment. At twelve o'clock, a violent chill, with a disposition to vomit. Blood-letting was not admissible, on account of the debility of the patient and the extent of the inflammation. Two drachms of mercurial ointment were administered in friction on the entire abdomen, and repeated every three hours. The first friction was very painful ; the slightest pressure occasioned the most agonizing cries from the patient. However, by the exercise of patience, it was finally accomplished. Three hours afterwards, the second friction occasioned very little pain ; but the face was profoundly altered ; pulse small, corded and frequent ; nausea still continued ; the body began to show evidences of moisture. Two hours after the third friction, the patient experienced a slight metallic taste ; the gums, the parotid and maxillary glands were painful ; an evident amelioration in the state of the abdomen. Notwithstanding this favorable change, a new friction was ordered ; it determined an abundant salivation, and considerably increased the pains in the gums and salivary glands.

The 3d, evident amendment ; considerable diminution in the pains of the abdomen ; pulse more elevated and less frequent ; the swelling and pain of the gums prevented the patient from sleeping ; the salivation not more abundant than on the previous day. Same ptisan ; emollient lavement. The frictions were ordered to be continued with only a drachm of the ointment ; but they were omitted, on account of the pain in the gums, and the sensible improvement in the patient. In the evening, there was scarcely any pain or inflation observed in the abdomen.

The 4th, sleep for several hours during the night, and the only inconvenience experienced by the patient was the pain in the gums. All the other symptoms had almost entirely disappeared. Same ptisan ; a broth and lavement.

The 5th, the patient slept the whole night ; slight pain in the abdomen on strong pressure ; gums still somewhat swollen and painful ; no fever. Soup ; two broths ; same ptisan. Convalescence established, and the patient left the hospital on the 19th. (Dusoir, Inaug. Dissert. p. 32. Paris, 1828.)

An effect of mercury as prompt as this is very rare. Most frequently its use is continued for several days before the appearance of salivation.

In this case but one ounce of mercurial ointment was employed; it may sometimes happen that eight or ten ounces of the same ointment will not produce so marked an effect.

I should not hesitate to prescribe mercurial preparations in a puerperal epidemic from an internal cause, with a primitive alteration of the fluids; but I should then abstain from blood-letting. In this case, I have a choice between mercury, on one hand, and camphor with quinine, on the other. I am of opinion that in a majority of cases there would be no impropriety, and even great advantage would follow the combination of these two modes of treatment.

As to the manner of administering the mercurial preparations, I am satisfied, with Vandenzande, that the disease ought to be controlled at its commencement, and that we would certainly compromise the success of this treatment by beginning with small doses. Assured from the experience of Chaussier and others, that frictions on the abdomen can always be endured, I am of opinion that we should employ simultaneously calomel interiorly, and frictions on the abdomen and thighs, in proportioning the doses to the severity of the disease. Frictions on the abdomen, when they are possible, appear to me preferable,

because it presents an extensive surface from which the mercury will be promptly absorbed, and because this cavity is the seat of the disease. I think that the application of the mercurial ointment to the thorax, would likewise prove efficacious, and that it is important to expose it to the action of a large number of absorbent vessels.

The rapidity with which the mercurial frictions on the abdomen frequently diminish the violence of the pains will perhaps be brought as an objection against this opinion. If there be on this part any specific local action, this action is not peculiar to mercury ; a similar result is obtained from frictions with the oil of turpentine, and it would perhaps be the same with any other substance.

We should be careful to favor the absorption of the mercury by cleaning from time to time the parts on which the frictions have already been practised. Soap and water will be found very proper to remove the greasy particles which remain on the skin and close up the pores. The slightly irritating action of the soap and water, and the rubbing sensation of the linen employed to dry the parts, will favor the absorption of a new portion of the mercurial ointment, which we must put on after the surface has been properly cleaned.

So far, we have only spoken of calomel internally and frictions with mercurial ointment. The object proposed being salivation, all the means which will effect this appear to me to be good. Mercurial ointment in pills, either alone, as doctor Terras of Geneva prescribes it in syphilis, or united with almond soap, as the older M. Sédillot advises it in the same case, has the property of determining a prompt salivation. Why should it not be employed in this manner when the salivation is tardy? I do not know where I have seen it recommended to inject mercurial ointment rendered demiliquid up the rectum. There are certain circumstances in which it would be proper to administer mercury by all the different ways. This latter mode would not answer in diarrhœa. The black oxyde of mercury acts on the salivary glands and gums still more rapidly than the mercurial ointment. The following is a fact taken from the work of M. Vandenzande, in which it is evident that this preparation proved highly useful :

“The wife of a pastry cook, at the corner of the *rue de la Nacelle*, after having been four days delivered by M. Cuypers, was attacked by a violent peritonitis. M. Hoylarts, her phy-

sician, finding her in a state of extreme exhaustion, proceeded immediately with the mercurial treatment as practised among us. The calomel given in large doses from the commencement and for several days had produced no effect; the addition of mercurial ointment, administered in frictions of half an ounce per day, had not caused any amelioration in the state of the patient, when we were called in consultation. It was the seventh day of the disease. The inflation of the abdomen was extreme; pulse weak and quick; face decomposed. The pains in the abdomen were not quite so severe; but taking into consideration the other symptoms, we could draw no satisfactory conclusion from that fact. Notwithstanding the enormous doses of calomel taken internally, and the quantity of mercurial ointment employed in frictions on the thighs and arms, the gums were sound and thirst moderate. The action of the mercury remained, therefore, concentrated in the interior, and the female, treated for two days, was exposed to imminent danger. Luckily, however, there was no vomiting, diarrhœa, nor partial sweats. M. Hoylarts, M. Cuypers and myself, knew from experience that whenever the signs of an approaching salivation were manifested in the mercurial treatment

of peritonitis, the patients always recovered. It was consequently proposed to provoke it by a preparation of mercury known as the most prompt in affecting the mouth and gums. We therefore had recourse to the soluble mercury of Hahneman, in the dose of a grain given in white sugar, five hours in the twenty-four, without henbane or opium. Our attempt was not without effect; at the end of the second day, salivation occurred; we did nothing to moderate it, and without being excessive, the symptoms were amended in a few days, and the patient recovered perfect health." (P. 60.)

The *modus operandi* of mercury is not known to us, in any case, not more in acute than chronic inflammations, in syphilis than in scrofula, &c.; for to say, with doctors Hufeland, Richter and Hecker, that it has the property of diminishing the *plasticité* of the blood; to admit, with Ernst Horn, that nothing is better proved than the debilitating property of the mercurial oxydes and salts; to regard, with doctor Ontyd, calomel as an excitant of the lymphatic system; and to accord, with others, a mere revulsive action to the mercurial preparations effected by the aid of the salivary glands, would not prove a very satisfactory solution of the question.

But what we know at the present day is, that mercury can circulate *en nature* with the humors. By an analysis made in the chemical laboratory of the Faculty of Medicine of Paris, notwithstanding mercurial frictions in large quantity, (twelve ounces five drachms in sixteen days,) and the salivation which resulted from them, mercury in its metallic state was detected in the mammary and salivary glands, and likewise in those of the mesentery and large intestine of a young woman who had died of puerperal peritonitis. This result, opposed to the assertion of several chemists, confirms the researches of Fourcroy, of professors Dumeril, Orfila, and Cruveilhier, who have found mercurial globules in the bones, in the cerebral mass, and in the nerves; and there can be no doubt with regard to the correctness of the fact, notwithstanding the prejudice against it. (Journal of Sciences and Medical Institutes, t. 7, p. 251.)

The presence of mercury in our humors, circulating with the blood and lymph, will necessarily produce certain changes in the composition of these liquids; it may serve as an argument against the opinion of physicians, who contend that the mercurial preparations act in no other

way than in establishing a revulsion to the salivary glands. Salivation is, in truth, the most evident result of the action of mercury. But in peritonitis, as in all acute inflammations, it appears to me much less a cause of cure than the indication of the advantageous effect produced by the mercury. In a word, when it announces itself, before it is even well established, the result of the disease is ordinarily decided. It would be injurious to endeavor to render it abundant. This, experience has demonstrated. Now we can readily conceive that, if the revulsion effected the cure, the more abundant the salivation, the greater would be the advantage.

Doctor Dumas informs us that he has observed a secondary effect of mercury independently of the salivation ; it is a miliary eruption of the skin, which is soon accompanied by a peeling off of the epidermis. This eruption commences with great irritation ; it does not depend upon the immediate action of the frictions, for it appears on portions of the skin which have not been subjected to them. M. Dumas has seen it on the face. All those females, says he, in whom it became developed were cured. (Report of M. Burguet.) I have never observed any thing similar to this.

DÉGORGEMENT OF THE BREASTS.

Authors have attached great importance to the emptying of the breasts, either for the purpose of preventing or curing puerperal peritonitis. The partizans of milky metastasis have particularly insisted on the necessity of lactation, and among them none have been more urgent on this subject than Doublet.

Experience has not been as favorable to this opinion as the theory may have caused us to hope. I have already mentioned that Leake never observed any advantage from lactation; and though Doublet attempts to account for it by saying that it was had recourse to at too late a period, still the fact is not the less true.

I stated in a previous chapter the reasons which induced me to believe that the irritation of the mammæ sometimes gave rise to peritonitis. It may be added, that when this disease exists, the attempts made in applying the child to the breasts have frequently no other result than to increase the abdominal pains, either sympathetically, by the irritation of the nipples, or directly, by the motion which the patient is subject-

ed to, or even by the pressure of the child on the abdomen. It most always is the case, that either there is but little milk, and that the child, not being able to make it ascend in sufficient quantity, becomes vexed, and refuses after a short time to take the breast; or, being placed in an inconvenient situation, it cries, grows impatient, and fatigues its mother; an attempt to make it nurse is again made after a little time, which it would have been much better not to have repeated.

In the epidemic mentioned by doctor Cerri, the secretion of milk did not take place. Robust and vigorous children were in vain applied to the breasts; they drew blood instead of milk. (Ozanan, t. 2, p. 281.)

The various instruments invented for the purpose of drawing the milk, and the small puppies recommended by Levret, are not attended by any happier effects. I am of opinion that, in attempting a revulsion towards the mammary glands, we frequently determine an effect quite contrary to what is intended; and I think suckling should always be dispensed with when the mammae are not swollen and distended by milk. In this case even, which is not very frequent, we should abandon lactation, if the pain be increased whenever the child is put to the breast.

CERTAIN AUXILIARY REMEDIES IN THE TREATMENT OF
PUERPERAL PERITONITIS.

WARM BATHS.

The use of baths has been considered as very advantageous by some, as injurious, or at least useless, by others. These baths consist most usually of simple water. Sometimes the patient is placed in emollient or calming decoctions of mallows, flaxseed, poppy heads, &c. One or two pounds of gelatine are thrown into the water. Aromatic infusions have been recommended; and lately doctor Busch has suggested the propriety of mixing three or four pounds of common salt with the water.

Theory appears at first view favorable to warm baths. They ordinarily tranquilize the agitation, procure a relaxation of all the parts, and more especially of the skin, to the functions of which they impart greater activity; they frequently introduce into the circulatory system a greater or less quantity of water. However, they are rarely useful in peritonitis. The pains which accompany the disease are such, that the slightest motion, the least change of position

augments them; and another great inconvenience is, that the pains occasioned by transporting the patient from the bed to the bathing-tub, continue during the bath, and instead of the bathing affording relief, it only determines an increase in the evil. The patient frequently asks to be removed from the bath, stating that it produces additional suffering. When, under certain circumstances, the pains appear to have diminished, they are soon re-produced by removing the patient to her bed; and after a few hours, she is frequently much worse than before the bath. When the disease is not severe, or of little extent, or when, after having been very violent, it tends to a successful termination, these inconveniences are not so much to be feared; but then it is not so necessary to endeavor to calm the agitation and pains; the erethism is much less considerable.

If to these considerations be added the difficulty of having the bath at a proper temperature, the risk of exposing the patient, in quitting the bath, to cold, to some sudden motion, &c., it will be evident that in the greatest number of cases, there is no proportion between the evil, which is almost certain, to which the patient is

exposed, and the benefit expected to be obtained.

Warm baths are, in my opinion, dangerous when there exists a great difficulty in the respiration and considerable inflation of the abdomen. I recollect to have seen at the hospital of La Charité a patient, whose abdomen was excessively inflated, perish a short time after having been put into a warm bath. The inflation increased so rapidly and to such a degree, that death was occasioned by asphyxia.

CATAPLASMS, FOMENTATIONS, AND INJECTIONS.

Cataplasms, when they can be endured, are always useful. They are made with the meal of flaxseed or rice, sometimes with the crumbs of bread and a decoction of mallows or flaxseed, poppy heads, &c.; they are spread on a linen, and applied to the naked abdomen, care being taken not to have them too thick, liquid, or too heavy. They should be renewed at least twice during the day. Chaussier always recommended to rub the abdomen with a drachm of mercurial ointment before applying the cataplasm. Besides the specific action of this ointment, it has the advantage of preventing the cataplasm, when

dry, from adhering so closely to the skin as not to be able to remove it without exciting pain. It is often very advantageous to sprinkle these cataplasms with an opiate preparation, such as the *landanum* of Rousseau or of Sydenham.

The cataplasms employed in this manner appear to me as useful as those prepared with emollient and calming herbs, which have been cooked. Unfortunately, in many cases, the sensibility of the abdomen is such that it is unable to support the least weight. We may, under these circumstances, employ a friction morning and evening of mercurial ointment, fomentations with a strong narcotic decoction on the abdomen, and a flannel may be wet with it and allowed to remain on this part. These fomentations require some attention in order to prevent them from becoming cold. An ammoniacal camphorated liniment has frequently replaced with advantage all the other remedies. I have already mentioned the good effects obtained from the application of the oil of turpentine.

It is now a proper time to say two words respecting doctors Gooch and Leg, who assure us that, since they have been in the habit of employing a cataplasm of flaxseed placed between two napkins, and applied to the entire abdomen,

puerperal peritonitis is no longer regarded as contagious nor even serious. They have adopted this mode of treatment in the lying-in institution under their care in London. It is true, that to these cataplasms they unite sanguineous evacuations and purgatives. They are at liberty to regard the first of these means as more important than the second, but I am sure very few practitioners will think with them on this subject.

It appears to me well demonstrated that they understand very little about puerperal peritonitis; and if they practise in an institution where there are many patients, I fear that they will too soon have occasion to abandon an opinion so little in accordance with experience.

Injectations up the vagina have been strongly recommended by some authors, and particularly by doctor Busch. They are always useful as a means of cleanliness. In particular circumstances, they may favor the evacuation of the lochiæ, and render it more abundant. They are of essential benefit when peritonitis is complicated with inflammation of the uterus. They are usually made with decoctions of flaxseed, poppy heads, mallows, &c.

Injectations are indispensable when peritonitis has been occasioned by the putrefaction of clots

of blood, of a portion of the placenta or its membranes; but then we should not limit them to the vagina. It will be necessary to inject the liquid into the uterine cavity. The great advantage of these injections is well set forth in a memoir by Recolin already cited.

A lady, thirty-two years of age, of a delicate complexion, had a miscarriage in the second month of her pregnancy. But one half of the placenta was extracted together with the membranes, which were lacerated.

“I made several attempts, says Recolin, to extract the other portion; it was yet in the uterus, and one end of it had descended to the orifice of this viscus. I abandoned it, hoping that it would be discharged spontaneously. I had several lavements administered to the patient, which produced copious evacuations. No change had yet taken place in the uterus. An oily potion was prescribed for the day. The discharge continued, but much less than before. The patient experienced continual pain, which increased from time to time, as well in the uterus as in the fundament. The next morning she had fever; the abdomen was tense and painful; increased discharge. A flannel moistened with an emollient decoction was applied to the bas-ventre.

“ I could easily touch the portion of the placenta remaining in the uterus, but the viscid blood with which it was covered caused it to slip from my fingers when I endeavored to extract it. The orifice continued to be well dilated, I employed the pincers used in the extraction of polypi, but they lacerated the placenta; and, notwithstanding the care with which I endeavored to extract this foreign body, it was impossible to succeed.

“ The fever, painful swelling of the abdomen, and loss of blood, increased considerably during the day and following night. The violence of the symptoms determined me to propose a consultation; the patient objected. I imagined a method, which succeeded according to my wishes and those of my patient, who was, as well as myself, very uneasy with regard to her situation. With a female syringe, the pipe of which I curved to suit my purpose, I injected warm water into the uterus, with a view of softening the clots of viscid blood which were discharged from it, and which covered the remaining portion of the placenta. This body now exhaled a very disagreeable odor. I supposed that, by this means, I should be enabled to get a better hold on the portion which was to be extracted, or that the injection

would itself be sufficient to effect its discharge. I was apprehensive, when introducing the pipe of the syringe into the uterus, that I would perhaps push the portion of placenta farther back; but I succeeded without displacing it. The pipe was easily passed between this body and the upper portion of the orifice. In the first place, I injected three syringes of water, which was immediately returned with a quantity of clotted blood. I now put aside the syringe, and endeavored to extract the portion of placenta with my fingers; but I was not more fortunate than before. The injections were then continued at several different intervals, until the water which was discharged was perfectly free from any unpleasant odor. It was now the afternoon of the third day since the accident.

“The same evening, at seven o’clock, the patient had less fever and pain; the discharge was much diminished. I was gratified at having found a means of arresting the progress of the symptoms, and to discover that we might now wait for the natural expulsion of this foreign body with less risk.

“At midnight, the discharge increased—the pains and fever returned. I examined the patient *per vaginam*, and found things in precise-

ly the same state as in the afternoon. I again had recourse to the injections, which were followed by the same effects as when previously employed; they were continued until all disagreeable smell had ceased. Before leaving the patient, she recovered the tranquillity which had already been procured her; but the portion of the placenta continued in the same situation. I returned home at two o'clock.

“At eight in the morning, all the symptoms had resumed nearly the same degree of violence. I had recourse to the same means, which were followed by precisely the same effect. In fine, it became necessary, for the two succeeding days, to repeat the injections; the symptoms always returned with their usual force when four hours had elapsed after the use of the injection.

“On the evening of the sixth day, at ten o'clock, the second injection, which I pushed with more rapidity than before, brought away the portion of the placenta. It was nearly the size of the portion which was discharged with the foetus, but very soft, and emitted a disagreeable odor. The pains ceased, and in a short time the patient entirely recovered.” (*Memoirs of the Academy of Surgery*, t. 3, p. 202.)

It is rare to observe the use of a remedy followed by so prompt a result. The injections had scarcely produced the discharge of this putrefied part, when the symptoms became immediately calmed. They again re-appeared as soon as a new portion of the placenta had fallen into putrefaction, and additional injections soon caused them to cease. Injections confined to the vagina would certainly not have procured the same effects.

The physician should always make the injections into the uterus himself; for the introduction of the canula into the cavity of the neck of the uterus calls for certain precautions, which an ordinary attendant cannot appreciate.

Recolin employed warm water simply; we may likewise use a decoction of barley, mallows, or quinine. The chloride of soda or lime is highly recommended at the present day. But I would be afraid to inject on the internal surface of the uterus a liquid which, if absorbed, might produce pernicious effects, as recently occurred from the injection of vinegar and water into the umbilical vein, for the purpose of hastening the delivery of the after-birth. I should prefer a frequent repetition of the injections, and the use of such as are perfectly innocent.

No matter what the mode of treatment may be that is preferred, repose of the body and mind is of the highest importance. Every thing should be removed from the patient that has any tendency to excite her. All visits must be interdicted; not more than one or two persons at most should be permitted to remain in the chamber at once. If the patient suckles her child, it must be left with her only during this operation; it should then be removed to a remote apartment, where the mother will not hear its cries. All noise is to be avoided. The necessity of the most perfect calm is easily conceived.

The air of the chamber merits all the attention of the physician. I have already entered into considerable detail on this point; I will now recur to it for a moment, by observing, with Rougnon, that a free access of air should be admitted into the chamber of the sick, whether during the day or night—even in winter: *Aer cubiculi sit purus, frigidus, sæpiusque, caute tamen, renove-tur* (Nolte); that the greatest possible cleanliness should be observed with regard to their beds, by keeping the curtains open, and removing all heating bed-clothes. We should be equally particular in attending to the cleanliness of the body linen, unless there be contra-indica-

tions, as for example, a perspiration which we do not wish to suppress. *Aer quotidie renovandus, neque tamen puerpera refrigerio est exponenda. Linteaminum renovatio eadem sub cautela necessaria est.* (Vogel, t. 2, p. 382.) Such also was the opinion of White. We should give, says he, clean linen to the patient every day, and we must be careful not to let twenty-four hours pass without having her hands, face and teeth washed. This attention to cleanliness, indispensable when peritonitis is epidemic—determined by an internal cause—is less necessary in sporadic peritonitis; however, it will be well not to neglect it. It is especially in hospital practice that we should enforce this rule. We are not to abandon so important a part of the treatment to the caprices of the attendant, who, having no other guide than her own sensations, will keep the doors and windows open or shut, accordingly as she is more or less affected by the odor of the ward—and as she is more or less sensible to the impression of cold.

I will now terminate all I have to say respecting the treatment of acute puerperal peritonitis with a few reflections on the particular attention necessary to diarrhœa, vomiting, and gaseous inflation of the abdomen.

From what I have elsewhere remarked concerning diarrhœa, it will be readily conceived that I regard its suppression as being most frequently productive of bad consequences. When it is moderate, we should endeavor to continue it by emollient, feculent drinks—by calming demi-lavements, repeated several times during the day. I mention demi-lavements because, if given entire, they would produce pain on account of the distension occasioned in the large intestine, and consequently in the peritoneum.

When the diarrhœa is very abundant, and weakens the patient, we should seek to moderate it. Rice water, sweetened with the syrup of quinces, and the white decoction of Sydenham, are the most proper drinks for this purpose. If they prove insufficient, we will add to them an opiate preparation. The syrup of diacodium ordinarily succeeds very well; it may be given in the dose of an ounce, an ounce and a half, and even of two ounces in the twenty-four hours. I have likewise seen pills composed of the gummy extract of opium used with great advantage. Opiates should be administered only in cases of excessive diarrhœa. Employed merely for the purpose of tranquilizing the agitation, and of procuring

sleep, I have known them to be without effect, and they may then produce a fatal constipation.

I will except those particular instances in which the pains are so acute and violent, that they will soon terminate life, if they are not interrupted. Under these circumstances, marked advantage may be obtained from the use of opium, under all its forms, without, however, neglecting the means proper to combat the inflammation. The opiate preparations, it must be recollected, are then directed only against a symptom, and in no case are they to constitute the principal part of the treatment. I am, indeed, of opinion that there would be great inconvenience in employing them without an evident necessity.

Quarter-lavements, with the decoction of mallows or flaxseed and poppy heads, are always very useful in cases of abundant diarrhœa; a small quantity of starch may be added. These lavements are to be repeated several times during the day, and with the precaution of moving the patient as little as possible. There are circumstances in which the diarrhœa is so excessive that it becomes necessary to employ opiates, not only in ptisans, in potion and in pills, but likewise to introduce them by means of lavements.

In this case, we should use in preference the laudanum of Rousseau, or the aqueous infusion of opium, according to the formula of Chaussier. We may even employ very large doses of opium, either because it remains but a short time in the system, and but a very small quantity of it is absorbed, or because the particular condition of the organism renders the action of this medicine much less energetic.

Nausea and vomiting likewise claim particular attention. If they exist at the commencement of the disease, they often indicate the necessity of an emetic. It is on the present occasion that we may apply this sentence of Hippocrates: *Vomitus vomitu curatur*. At a more advanced period, we should always endeavor to calm them. They fatigue the patient considerably. The gaseous waters, natural or artificial, and the anti-emetic potion of Rivière, have been recommended; I have employed them with decided advantage. At other times, cold drinks, taken in small quantity, have succeeded. In cases which resist these different means, pounded ice, swallowed in spoonful at a time, have arrested, or at least suspended the vomiting. I have found it of advantage in this case to add equal parts of saffron. I have seen good effects from the application of

cloths wet with cold water, and a bladder filled with ice to the region of the stomach. Blisters and opiate liniments have also been recommended to be applied to this region; I have always found them without effect. Colombo root, whether in powder, extract, or infusion, has been advised; I have never used it. It is important to give but very little drink; if there should be much thirst, we may calm it by a few spoonful of a potion with the addition of a drachm of boracic acid—a few slices of orange—a few grapes, which we permit the patient to suck—currants, cherries, &c. when they can be procured.

It often happens that all the remedies employed prove unsuccessful in arresting the vomiting. Although the patients may abstain from drinking, they eject in abundance, brown, greenish, viscid matter. These cases are always to be considered as desperate.

The inflation of the abdomen is sometimes carried to such a degree as to determine asphyxia, by preventing inspiration. Camphor combined with nitre, or given in lavements in the yolk of an egg, has been much used in such cases; magnesia and lime water have likewise been highly recommended. Fomentations with cold water, vinegar and water, the application of ice, have

been employed, and not without success, by some practitioners. When these remedies proved insufficient, recourse was had to mechanical means. The pipe of a syringe, in which a vacancy had been made by withdrawing the piston, was introduced up the anus; this operation was repeated several times, with the precaution of withdrawing the pipe each time, and of pushing down the piston before re-introducing it. A sound of gum elastic has likewise been introduced into the stomach, to which a syringe was adapted for the purpose of making a void.

Acupuncture has been recommended. We know that formerly it was practised upon the naked intestine distended by gas; Paré mentions that he has succeeded with it. Rousset has seen it employed; Pierre, Low, Garengéot, Sharp, and Van Swieten have extolled it in a similar case. It would not, it appears to me, be more dangerous to practise it through the abdominal parietes; and the experiments of Berlioz, Beclard, of MM. Bretonneau and J. Cloquet should encourage us to attempt it. However, in admitting that it may procure momentary relief, we are not to deny that there is very little hope of preserving life.

All that I have so far said respecting the treatment of puerperal peritonitis, is applicable to the

acute stage, to the first days of the disease. It may happen that the remedies employed will have no other effect than that of moderating the violence and intensity of the symptoms—diminishing the fever, and subduing the abdominal pains; there then remains an effusion more or less considerable in the cavity of the peritoneum. This effusion, the production of inflammation, becomes in its turn the cause of inflammation, or at least it continues that which already exists in the peritoneum, and it usually terminates in death. However, it has happened that nature alone, or aided by the resources of art, has triumphed over these effusions, and that health was perfectly re-established.

In attending to the facts relating to this subject, we perceive that the cure has been effected in three different ways:—1. Either the effused matter has been absorbed, and afterwards evacuated by stool, and the urinary and perspiratory excretions; 2. Or this matter has appeared directly and spontaneously without; 3. Or an issue has been procured by art.

The absorption is certainly the most advantageous method; it is the mode of termination we should always endeavor to obtain. It has been recommended to favor it by the use of aperient

drinks, diuretics and laxatives. It is useful, at the same time that we employ these means, to sustain the strength by light nourishment, and to administer occasionally a few doses of the decoction of quinine.

In cases of partial, circumscribed effusion, Puzos employed boldly blood-letting, and several times he obtained the most happy results. In the following observation will be found an example of this particular mode of treatment.

"About ten years since," says he, "a lady, having been five weeks delivered, perceived that her abdomen was enlarged. M. Malaval, her surgeon, having been sent for, discovered, after an examination, that the situation of the patient was such as to justify him in demanding a consultation. I was sent for, and recognized with facility a tumor of the size of a child's head. It appeared to me to be seated in the broad ligament of the right side, and occupied all the space between the lateral part of the pubis and the anterior superior spinous process of the ilium. Although the tumor had continued for nearly two months, and had acquired a considerable degree of hardness, I did not hesitate to attempt its resolution. I had the patient bled four times in

two days, which produced evident diminution in the pains. She was then placed on the use of broths, rendered slightly aperient, of which I make great use in milky deposits. These drinks were made of the leaves of endive, chervil, watercresses and glauber salts. These, together with the use of lavements, produced a considerable evacuation of urine. Shortly afterwards, I rendered them purgative. As they procured seven or eight evacuations in the twenty-four hours, they were occasionally suspended, in order to give the patient repose; and during these intervals, she took powders of the wood-louse (*de cloporte*) and viper, cinnebar and antimony. The tumor which was adhering, now began to move; it afterwards gradually diminished, and entirely disappeared after six weeks use of the remedies, and three months after accouchement." (Treatise on Midwifery, &c. p. 358.) The blood-letting, the diuretic and purgative medications were of essential service. In a case somewhat similar, the same remedies had been unsuccessful, when abundant sweats obtained by the use of diaphoretics effected a cure of which Puzos had despaired. (P. 360.) M. Hassan is equally warm in defence of general sanguineous emissions;

and two facts recently recorded in the *French Lancet*, (t. 2, N. 1,) prove the good effects to be obtained from them. But blood-letting cannot always be employed so boldly, particularly when it has been used in the acute stage of the disease. The patient may be in such a state of debility as to proscribe it altogether.

In chronic peritonitis we should bleed with great circumspection, in order not to deprive the patient of the strength absolutely necessary in order to enable her to overcome a disease always tedious. It is under those circumstances that a suppuration, kept up on the abdominal parietes, either by blisters or a seton, may produce very advantageous results. Doctor Locatelli has repeatedly made an issue, with great success, in each inguinal region: for this purpose he employed caustic potash.

The action of these revulsives is to be seconded by fomentations, emollient cataplasms, warm demi-baths, &c. It has sometimes proved highly serviceable to rub the abdomen with a liniment slightly irritating. These different external means should be employed conjointly with the internal remedies which were mentioned in the observations just cited from Puzos.

The use of mercury is often very beneficial in chronic peritonitis. Clarke and Robert Hamilton have highly recommended it in these cases, according to Gastellier; and a cure obtained, under similar circumstances, by the employment of calomel, suggested to doctor Vandenzande the idea of administering the same remedy in acute peritonitis. The following is the case: A female, thirty-seven years of age, was delivered the 25th of December, 1809, and four day safterwards experienced symptoms of peritonitis. Treated by the application of several leeches, diluting drinks, emollient lavements, slight narcotics, and three blisters applied successively to the abdomen, on the most painful points, she was without fever on the 8th of January, but there was an evident collection of liquid in the abdomen. She felt obscure pains in the hypogastric region, and every evening the patient was attacked by a chill with headache, followed by heat and the other symptoms of fever, which continued till morning. Before having recourse to puncture, M. Vandenzande was desirous of trying the use of calomel; he combined it with the extract of black henbane and opium, together with a sufficient quantity of gum arabic. The patient

The patient took two of the powders daily, for eight days; at the same time she used a pectoral ptisan with an equal part of a decoction of the bitter-sweet, and an addition of half an ounce of acetate of ammonia to a pound of the ptisan. A sensible amendment followed; the pains had almost disappeared, the fever was much diminished. Sleep and the appetite began to return. As there was no appearance of salivation, the number of powders was increased to three a day, for the fifteen following days, and their action was excited by the use of a volatile camphorated liniment applied in frictions to the abdomen. The urine became thick. In a short time there was a discharge from the vulve of a sero-mucous matter, extremely fetid and abundant. The abdomen decreased in size; the pains and fever disappeared; the skin, which had been dry and often burning, became moist, and it was now perceived with great satisfaction that the gums were affected by the mercury—an evident proof, remarks M. Vandenzande, that the irritation of the abdomen was dissipated. A few light purgatives and astringent gargles were now prescribed. The powders were reduced to one a day, and the ptisan replaced by a decoction of quinine and Iceland moss. In fine, five weeks after the cessation of the acute

stage of peritonitis, the patient left the hospital perfectly cured. (P. 25, *et sequentia.*)

The action of calomel is very evident in this case, and although it was seconded by the use of other remedies, it is scarcely possible to deny that it was the principal agent in the cure.

The frictions with mercurial ointment, recommended by Laennec, MM. Lerminier, Ozanan, and several English physicians, will be very beneficial, whether administered alone, or in combination with other preparations of the same metal. The essential point here, as in acute peritonitis, is to determine salivation, which generally occurs when the cause of the disease is destroyed; but it is much less important that this salivation should take place in a few days; it is unnecessary to employ every day large doses of mercury, unless after a certain period we should encounter some difficulty in producing the action of this remedy, which it will always be useful to second by the use of warm baths.

It may happen, and this is by no means rare, that all the remedies employed to obtain an absorption of the effused liquid, will prove unsuccessful. In this case, either the state of the abdomen is not changed, or there commences in some one point an inflammation, which tends

to give issue to the effused fluid. This point becomes the seat of acute pain; it is harder and more heated than elsewhere; the inflammation, which proceeds from within outwards, gradually reaches the skin, which tumefies, grows red, and ulcerates. This ulceration communicates with the purulent collection, and gives issue to it. These phenomena were observed in the case of a female of whose disease I have already made mention. There are several analogous facts in the Archives of Science. Chomel, Benevoli, Mille-ret and Parroisse have noticed a similar opening at the umbilicus; Verdier Duclos, in the cavity of the intestine; Brisorgueil, in the vicinity of the anus; Viger, and M. Robouam, in the vagina and bladder; Monteggia, in the vagina. The case observed by Monteggia is recorded in the *preliminary discourse* to the translation of Steins' *Art of Midwifery*, page 42.

A female whose pelvis was malformed had been delivered by means of the crotchet. "The abdomen swelled; pains were felt in the left iliac region, fever commenced, but the pulse continued feeble and small; a constipation, which had lasted for the eight first days, was followed by diarrhœa, which diminished the tumefaction of the abdomen; in fine, a large quantity of purulent matter

was discharged, which increased when the patient lay on her left side. The fever continued, and became hectic; the diarrhœa progressed, produced great emaciation, and the patient died at the end of a month. On opening the body, a large collection of pus was observed in the broad ligaments of the uterus, which reached to the two iliac fossæ, extending to the right as far as the concave portion of the liver and the vicinity of the kidney, which floated, as it were, in the purulent collection, which was discharged through an opening at the superior and upper portion of the vagina."

When we remark a disposition in nature to expel the effused fluid, we should favor this disposition by all possible means, having recourse to emollient cataplasms, warm baths, &c. If the pains are violent, the fluctuation distinct, or the opening late in being established, we may plunge a trochar, or, still better, a bistoury, into the most swollen point, after the example of Bondon, Delamotte, Puzos, Pelletier, Parroisse, and Cliet; or we may apply to this spot a piece of the lapis infernalis, as Parroisse has done, for the purpose of passing a seton. This surgeon was called to a woman who, after a long and painful accouchement, had been affected with inflamma-

tion of the peritoneum. The twenty-second day, she had in the right iliac region a small, circumscribed tumor, pretty firm and painful to the touch, of an oblong form, the greatest diameter of which, measuring about four inches, was parallel to Poupart's ligament. The abdomen was tense, particularly towards the hypogastric region.

This state was accompanied by intermittent fever, the exacerbations of which returned every evening, and continued the whole night. She had violent cough; insomnium; complete anorexia; obstinate constipation. Parroisse recommended the use of baths; he ordered an infusion of elder flowers in a pint of milk-whey mixed with two drachms of salts, to be taken every morning; he prescribed nitrous drinks, a laxative lavement every evening before the attack of the fever, and embrocations on the tumor with a volatile liniment. These simple means soon produced a sensible relief; the fever diminished; the lochiæ flowed abundantly. The patient had two or three evacuations every day, but she was still tormented by her cough and difficulty of sleeping; the tumor continued to increase in size. The baths were very useful, and the patient was perfectly free from pain whilst she was in the bathing-tub.

After three weeks, Parroisse, on examining the tumor, perceived a profound fluctuation ; he determined immediately to pass a seton. For this purpose, two pieces of caustic potash were placed, the one at the superior, the other at the inferior part of the tumor. The day after this application, the tumor became very much inflamed ; distinct pulsations were felt in it. The inflammation continued, and gave rise to two abscesses, which opened at the inferior portion of the tumor, before the eschars had fallen off. These abscesses, having penetrated, gave issue to a large quantity of healthy pus. From this moment, the fever and pain diminished ; sleep, appetite, and the general strength returned. "I prescribed," observes Parroisse, "camphor and quinine, in order to prevent the absorption of the pus, and to oppose any bad effects, if it should occur. I ordered the application of emollient cataplasms. When the eschars fell off, almost all the matter had escaped, so that the four wounds soon cicatrized." (P. 76.)

The author of this observation does not tell us what had determined him to employ a seton. He explains, however, the reason why he preferred the caustic potash, by saying that *the abscess had been very slow in forming, and that there was*

no inflammation well developed. Without discussing the propriety of his motives, it is evident that the effect of the potash was to produce inflammation in the tumor, and to determine the formation of two abscesses, the spontaneous bursting of which gave issue to the effused liquid contained within the peritoneal cavity. This effect should be remembered; and it may have great influence in deciding upon the preference of any particular mode of operating.

When all the remedies employed have proved abortive—when there is no appearance of the fluid being absorbed, or of its being discharged by an opening, are we to abandon the patient to certain death? Or rather, is it not possible to aid the efforts of nature by an operation, the object of which will be the evacuation of the effused liquid?

A similar operation has been several times practised; and the success obtained by Bossu, Martin of Bordeaux, Pujol, and professor Recamier, appear to me to decide this question in the affirmative. However, some practitioners have objected to any operation in this case. The abdominal effusions, produced by peritonitis, are, they say, divided into several different masses, which do not communicate with each other. We

can only afford momentary relief to a disease, which, these same practitioners observe, continues to make rapid progress. Happily, experience has not in all cases confirmed their fears. The collections are not always multiple; and, when they are, it often happens that the artificial evacuation of one will become the cause of a natural issue to the others. The following observation of Pujol is proof of this fact:

A female had an effusion in her abdomen, the effect of puerperal peritonitis. Her situation becoming every day more critical, recourse was had, after the advice of Pujol, to the operation of paracentesis. This was performed with a trochar, and about six pints of fluid were discharged through the canula. Notwithstanding all the care that was taken not to leave any liquid in the interior, the *bas-ventre*, though very flexible, was still much larger than natural. After a short time, the abdomen became painful and swelled; a tumor appeared in the umbilical region, whence all the pains were derived. At the end of a few days, an opening was made at this point, which procured the discharge of about a glass of fluid. Pujol was desirous of attacking the principal *depôt* by piercing with a bistoury the inferior portion of the bag which had just

been opened. But it was thought preferable to abandon this to nature. On the fourth day, there was a spontaneous opening through which some cellular and fatty particles escaped, resembling portions of the epiploon. On the following days, a turbid and putrid liquid was discharged. A fistulous opening continued at the umbilicus, which did not cicatrize for six months. (*Ancient Journal of Medicine, Surgery and Pharmacy*, t. 78, p. 44.)

In the same *Journal*, vol. 63, page 496, is a similar fact, reported by Lepelletier.

A female, twenty-four years of age, having been safely delivered, was attacked by peritonitis on the eighth day after her accouchement. The treatment according to Doulcet did not prove successful. Lepelletier was sent for, fourteen days after the commencement of the disease. The patient then had but little fever; pulse small and corded; the bas-ventre enormously swelled, particularly towards the hypogastric region. Fluctuation was sensibly distinguished in this region. Chicken water with nitre, and the use of a purgative decoction, continued for two days, having produced no diminution in the symptoms, the operation of paracentesis was performed, which gave issue to more than six pints of fluid. At the end of a week, a tumor was formed at the

umbilicus—it ulcerated, and a quantity of pus was discharged. The wound very quickly cicatrized, and the woman recovered.

In both these cases, the patients were evidently in great danger; and death would certainly have occurred had it not been for the timely interference of art. However, the operation only remedied a part of the evil; and its success would have been incomplete, if nature, relieved and stimulated by this operation, had not finished what art had commenced. It is very easy to perceive, it appears to me, the influence which the first evacuation had on the ulterior operation of nature.

As uncertain as this operation may appear, still I think it should be performed. Without doubt, it has been practised several times without any benefit resulting to the patient. I myself have witnessed its failure; but there exist a sufficient number of facts in its favor to justify us in having recourse to it. Moreover, we should recollect that the patients are consigned to inevitable death, if art does not interpose in their behalf; we may here refer to the precept of Celsus: *Melius est anceps experiri remedium quam nulum.*

The trochar and bistoury have both been employed for this operation. The use of the former is attended by certain inconveniences, which

it will be proper to mention. After the puncture with this instrument, the fibrinous particles close up the canula, and arrest the flow of the liquid. "During the operation," observes Pujol, "cheesy lumps were discharged in quantity through the canula; they frequently obstruct the canal, and it then becomes necessary to push them into the interior with a sound, in order to re-establish the discharge of the fluid. The operation occupied an entire hour."

With the bistoury we may make an opening of sufficient extent to admit the free discharge of the liquid and coagulated matter. The incision should always be practised at the point in which the fluctuation is the most distinct, with a proper attention to the situation of the blood vessels.

Alix, professor in the university of Fulde, employed a bistoury for the purpose of performing this operation. The effusion was seated in the left inguinal region, and behind the recti muscles. He imagined it necessary to commence with an incision parallel to the direction of the muscular fibres. He then successively divided the recti, external and internal oblique muscles. After the incision of this latter, a considerable quantity of pus was discharged. The index finger of the left hand was introduced into the wound; the point of a bistoury placed on the nail

of this finger served to enlarge the opening above and below. All the fluid was then evacuated, and the wound was dressed with tents of lint, to which a thread was attached, in order to prevent them from falling into the abdomen. The whole was covered with a plaster of diachylum, and supported by a T bandage. After a few days, the appearance of the naked intestines proved that the pus was situated in the cavity of the abdomen; eight days afterwards, the patient was convalescent, nisi quod mea ipsius culpa, says Alix, idem malum denuo incurreret, et hoc meum erratum ideo referam, ut quilibet chirurgus sibi caveat ne tale quid peccet. In fine, new pains soon declared themselves in the abdomen—a fluctuation began to be felt. Alix made a second incision, and was greatly surprised to perceive a tent of lint discharged with the pus. He recollected that on one of the preceding days, being fatigued and hurried, he had dressed the wound with tents which had been prepared before his visit, and had not taken the precaution of attaching them by a thread. The patient soon recovered. (*Observata Chirurgica, Fasciculus Primus, p. 15.*)

This case has appeared very curious to me, both on account of the manner in which the operation was performed, and the consecutive acci-

dents. I have thought that an useful lesson might be derived from it.

I have already spoken of openings made at the umbilicus—in the anterior and lateral regions of the abdomen, and at the margin of the anus. Doublet cites a case in which this operation was successfully performed in the lumbar region; and Alph. Leroy assures us that he has performed it in the vagina, by the aid of a pharyngotome, in a female who speedily recovered; he gives no description of either the disease or operation.

Fifty years ago, frequent use was made of injections either for the purpose of cleansing or of facilitating the discharge of the fibrinous portions which had not passed out with the liquid. Theoretical notions caused these injections to be laid aside, they being regarded as dangerous or at least useless. At the present day, however, practitioners appear to approve of them; they are now recommended with the intention of preventing the continuance of air in a cavity, the sides of which can never completely return upon themselves. At each dressing the injection is renewed, which is made less and less considerable until the cicatrization of the sides of the wound permit us to abandon them.

The use of injections appears to be of decided advantage. They prevent the decomposition of

the matter which has not been evacuated, and their frequent repetition presents to the absorbents a mild, innocent fluid, instead of putrefied substances, the deleterious effects of which are so promptly manifested. Warm water, water of mallows, flaxseed, decoction of barley, &c. will all answer very well as injections.

It will sometimes be useful to favor the evacuation of the pus, either by a particular position of the patient, or by a proper dressing. Compression judiciously employed, will often prove highly serviceable. Parroisse was once obliged to make a counter-opening, from which he derived great advantage.

There will be found in the observations I have recorded, rules of conduct applicable to the different accidents which may occur after the operation. I will conclude by observing that light nourishment, sufficient, however, to sustain the general strength, the use of a bitter decoction, and especially of the decoction of quinine, will contribute powerfully to the return of health.



FINIS.

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